



City of Fitchburg  
Planning/zoning Department  
5520 Lacy Road  
Fitchburg, WI 53711 (608-270-4200)

1/18/11 Receipt 1.34/6 JP  
**LAND DIVISION APPLICATION**

The undersigned owner, or owner's authorized agent, of property herein described hereby submits ten (10) copies of the attached maps, one (1) copy no larger than 11" x 17", and one (1) pdf document of the complete submittal (planning@city.fitchburg.wi.us) for approval under the rules and requirements of the Fitchburg Land Division Ordinance.

1. Type of Action Requested:
- ☐ Certified Survey Map Approval
  - ☐ Preliminary Plat Approval
  - ☐ Final Plat Approval
  - ☐ Replat
  - ☒ Comprehensive Development Plan Approval

2. Proposed Land Use (Check all that Apply):

- ☒ Single Family Residential
- ☐ Two-Family Residential
- ☒ Multi-Family Residential
- ☒ Commercial/Industrial

3. No. of Parcels Proposed: 24

4. No. Of Buildable Lots Proposed: 21

5. Zoning District: A-X

6. Current Owner of Property: Tech Lands LLC

Address: 120 E. Lakeside Street, Madison WI 53715 Phone No: 608-294-4080

7. Contact Person: Chris Armstrong

Email: chris@avanteproperties.com

Address: 120 E. Lakeside Street, Madison WI 53715 Phone No: 608-294-4086

8. Submission of legal description in electronic format (MS Word or plain text) by email to: planning@city.fitchburg.wi.us

Respectfully Submitted By:  Chris Armstrong

Owner's or Authorized Agent's Signature Print Owner's or Authorized Agent's Name

PLEASE NOTE - Applicants shall be responsible for legal or outside consultant costs incurred by the City. Submissions shall be made at least four (4) weeks prior to desired plan commission meeting.

For City Use Only: Date Received: 1/18/2011

Ordinance Section No. \_\_\_\_\_

Fee Paid: \$3,750.00 (amm fee = \$ 3,510.00 refund of difference will be processed)

Permit Request No. CDP-1887-11

# Fitchburg Technology Campus Phase II

## Comprehensive Development Plan



City of Fitchburg

Submitted On: January 18, 2011

Revised to Address Staff Comments: February 3, 2011

For Plan Commission Consideration On: February 15, 2011

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Fitchburg Technology Campus Phase II CDP

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# PROJECT TEAM

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Fitchburg Technology Campus Phase II CDP

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**Project Name:** Fitchburg Technology Campus Phase II

**Project Owner / Applicant:**

Tech Lands LLC

Chris Armstrong

120 East Lakeside Street

Madison, WI 53715

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**Prepared By:**

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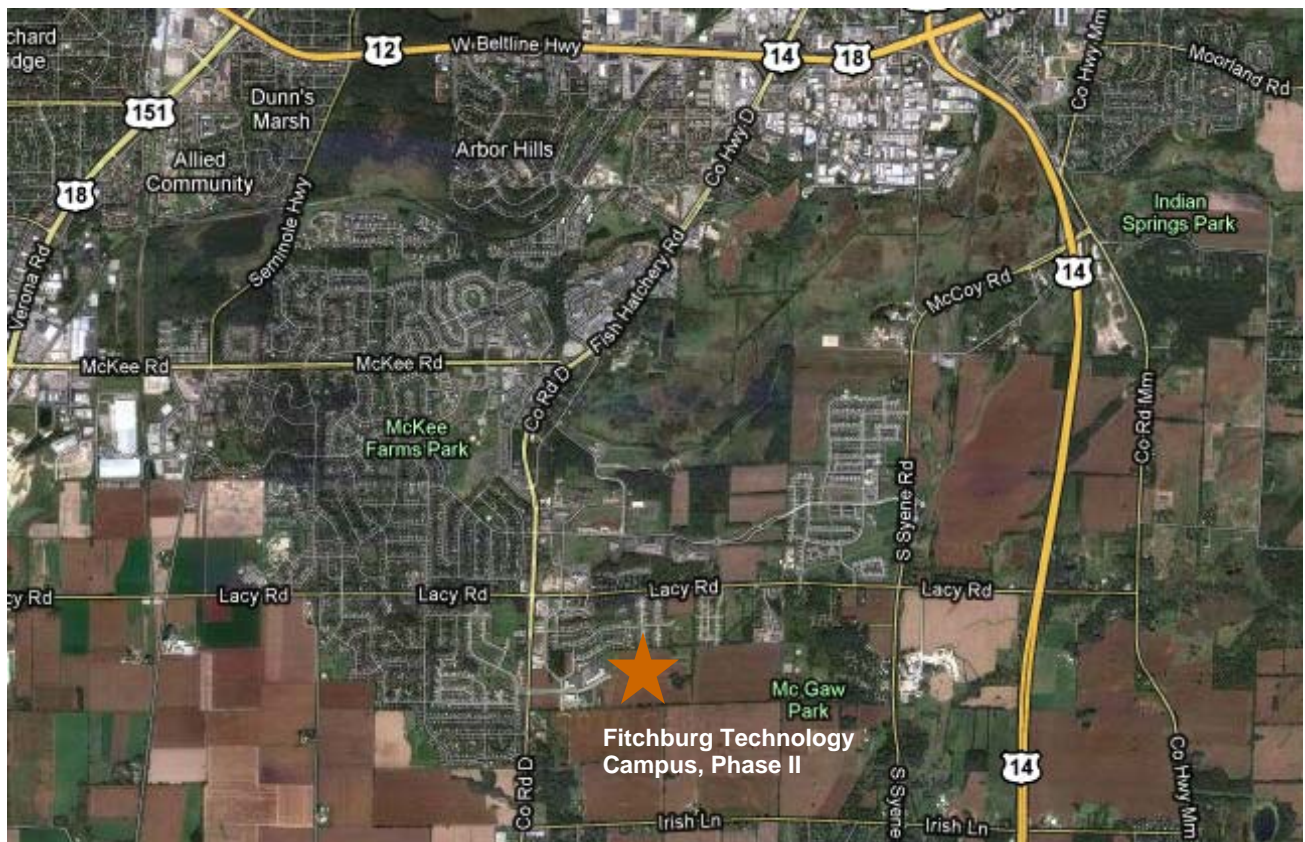
# INTRODUCTION

Fitchburg Technology Campus Phase II CDP

## Background Information & Project Overview

The first phase of the Fitchburg Technology Campus was approved in 2002. Approved via Planned Development District, the first phase included offices, services, multifamily residential, and single-family residential uses. Phase I has already brought over 30 companies and 700 jobs to the City of Fitchburg. Though some land from phase I remains undeveloped, the plan has largely been implemented, successfully bringing a mix of employment and residences to the southern portion of urban Fitchburg.

Phase II of the Fitchburg Technology Campus aims to build on that success by implementing the planned expansion of the development, as outlined in the original PDD and in the City's McGaw Park Neighborhood Plan and Comprehensive Plan. Consistent with the aforementioned plans, Phase II will be developed almost entirely as a commercial/industrial business park, with office buildings and flex space ranging from one to four stories in height. Quarry Hill Park land is included in the planning area. The main stormwater management area for the project is to the south of the park, expanding on the small pond that currently exists at the site's low point. A small residential component is planned for the area, helping to transition from the residen-



tial neighborhood on the north to the planned office development. Ten single family home lots have been placed to the north of the site and along the planned stormwater management area. A small (one acre) multifamily residential site is planned for the northeast corner of the future Nobel Drive and Mica Road intersection, adjoining the stormwater management area. Some land along the eastern edge of Phase I is included in this CDP. The parcel on the eastern edge of Phase I north of Nobel Drive is included to allow alteration of a lot line to create a more developable lot shape for Phase II lands. The parcel on the eastern edge of Phase I south of Nobel Drive is included so that a sliver of land from the Phase II area may be attached to a Phase I lot to enable a better site layout.

This submittal constitutes a Comprehensive Development Plan (CDP) under Chapter 15 of the City's ordinances. The development team intends to move forward with platting and rezoning of property subsequent to City approval of the CDP.

## **Project Summary—Phase II**

Estimated number of residential units: 30

Acreage of residential development: 3.4

Estimated square footage of commercial/flex tech development: 870,000 (at 0.5 FAR—see text discussion)

Acreage of commercial/flex tech development: 40.0 (does not include lots originally zoned as part of Phase I).

Acreage of open space/stormwater management: 5.9

Potential number of jobs supported at build out: 2,175 (assuming 1 job per 400 gross square feet)

## **Stakeholder Participation**

The developer's representative, Chris Armstrong has met with the Quarry Hill Neighborhood Association (QHNA) four times (December 9, December 13, December 23, and January 14) to discuss issues related to the CDP and rezoning. QHNA has been represented by association President Robert Zorko, Vice President Dennis Weidemann, Director of External Relations Jeff Ballard, and various additional neighbors. The neighborhood supports the project in general and does not want to contribute in any way to slowing the approval process, but had the following concerns that they would like addressed as part of the eventual Specialized Industrial District rezoning application:

1. The use under sec. 22.67 (4) of the zoning ordinance be moved from an allowable use to conditional use (Pilot plants or other facilities for the testing of manufacturing, process or fabrication).
2. Sound DBa threshold limits at the shared property line with Quarry Hill, the specifics and feasibility of which is currently being analyzed. Both groups are working towards an acceptable solution to accompany the rezoning application.
3. Backup generators are an allowable use if they are a single generator dedicate to each building and not attached to the power grid.

A more detailed agreement is expected to be available with the rezoning submittal for the property.

## Boundary Description

This document covers outlots 7, 8, and 9 of the Fitchburg Technology Campus, First Addition (parcels 060915260262 , 060915145002 , and 060915145252 ). These parcels comprise approximately 58 acres. This document also includes parcel 060915243022 and parcel 060915245452, which were platted as part of Phase I of the Campus, and total 7.26 acres.

The legal description of the area is as follows: Lot 21 and Outlot 7, First Addition to Fitchburg Technology Campus, as recorded in Volume 58-025A of Plats, on Pages 135-139, as Document Number 3708613, Dane County Registry, also Lot 3, Certified Survey Map Number 12188, as recorded in Volume 75 of Certified Survey Maps, on Pages 168-170, as Document Number 4328586, Dane County Registry, located in the SW¼-NW¼, the SE ¼ - NW ¼, and the SW¼-NE¼, of Section 15, Township 06 North, Range 09 East, City of Fitchburg, Dane County, Wisconsin.

Please see the Concept Plat Map, attached as an appendix to this document, for the full boundary area.



# SITE INFORMATION

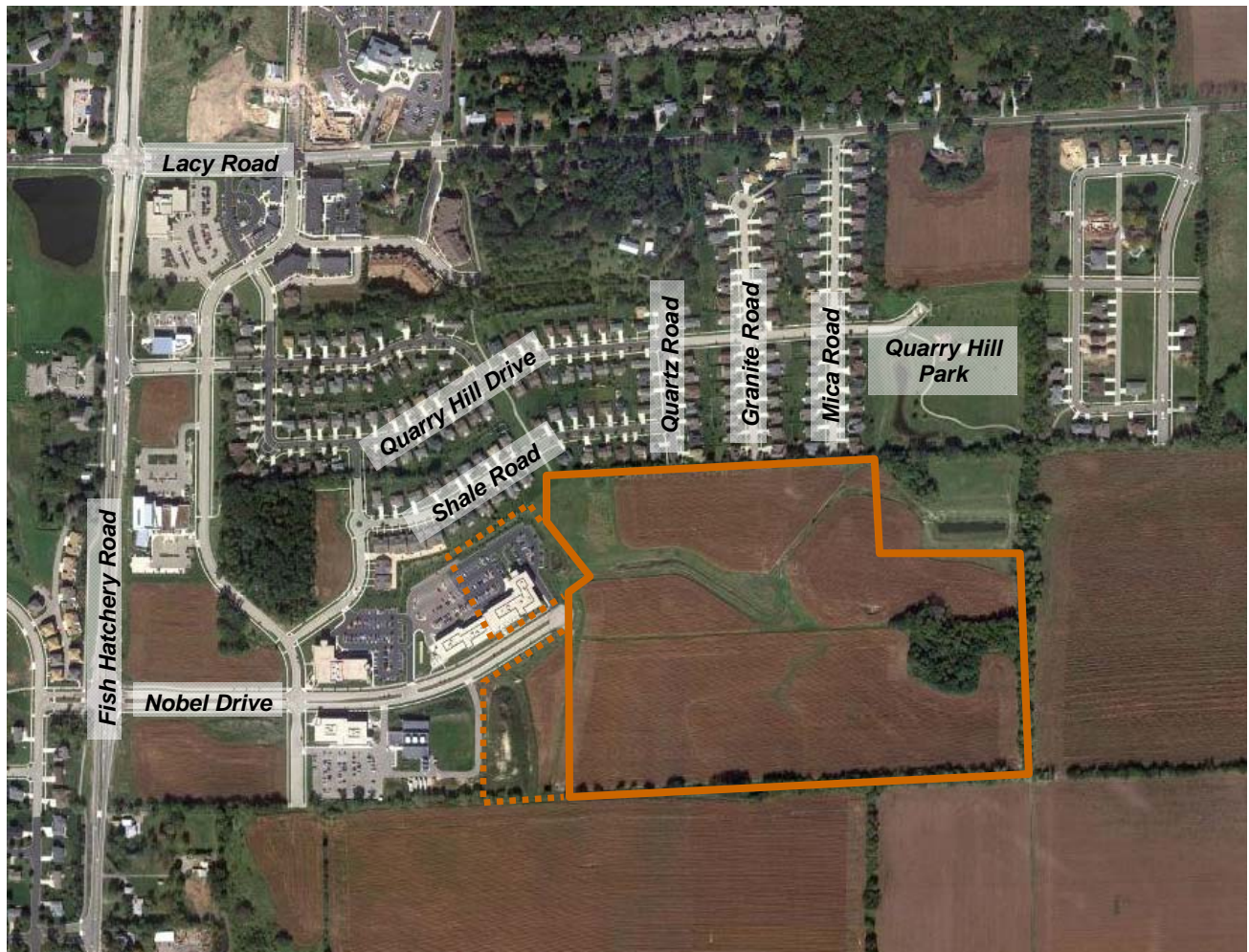
Fitchburg Technology Campus Phase II CDP

## Site Context

Single-family residential development and Quarry Hill Park are immediately to the north of the project area. Phase I of the Technology Campus is to the west. The existing agricultural land to the east and south is planned for future development under the City's McGaw Park Neighborhood Plan. Land to the east is planned for medium-density (estimated at 20 DU per acre) residential, and land to the south is planned for mixed-use office/residential development.

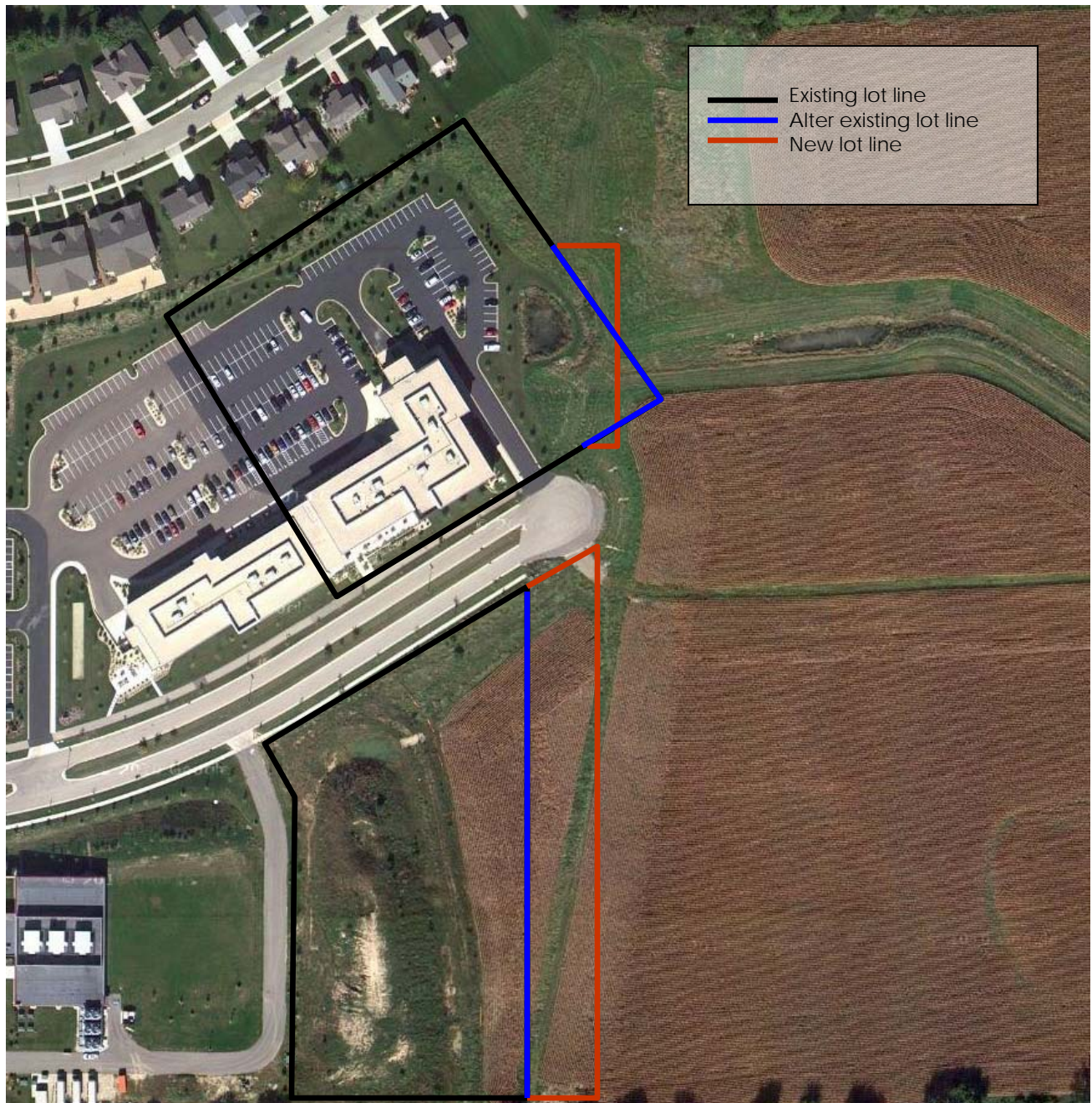
## Existing Conditions

The solid line on the map below shows areas that are currently in Phase I that are being added to the Phase II CDP. The northern area has been added to straighten out the western lot line; the southern area has been added to expand the lot area. See the diagram on the following page for an illustration of proposed adjustments.





The site is currently used for agriculture. There is a small Boxelder treestand in the east-central portion of the parcel, and trees along the north, east, and south boundaries of the area.



# DEVELOPMENT PLAN

Fitchburg Technology Campus Phase II CDP

## Site Plan

The CDP anticipates ten single-family residential lots (of approximately 8,600 to 10,500 square feet) and one multifamily residential lot of approximately one acre. Multifamily residential may be apartments or condominiums. For the purposes of this document, it is assumed that the multifamily residential will be 70% one bedroom and 30% two-bedroom units. Actual ratio will depend upon the design considered by the Plan Commission prior to construction. Anticipated residential density and population are shown in the chart below.

The McGaw Park Neighborhood Plan calls for non-residential development to occur at a floor area ratio (FAR) of 0.5. Excluding the lot line adjustment areas along the Phase I boundary, there are approximately 35 acres planned for rezoning to I-S (Specialized Industrial) development. If that area were developed at the 0.5 FAR, approximately 767,000 square feet of commercial/light manufacturing space would be in place at full build-out. As previously mentioned, developing at such a high density will be dependent upon the City offsetting the cost of the structured parking that is necessary to support the density. If such assistance is not available, the site will develop at roughly a 0.3 FAR, which would result in about 460,000 square feet of space. Development is planned to occur in one- to four-story buildings. Regardless of the ultimate FAR, conditional use permits to exceed the maximum height of the I-S district will likely be sought for several future buildings. Such permits will be required in order to achieve a 0.5 FAR. Further, Industrial Specialized zoning allows for a maximum 0.65 ISR. The neighborhood plan, as part of a 0.5 FAR goal modeled a 0.9 ISR. The applicant is requesting acknowledgement of this difference in the per lot FAR calculation when measuring the “buildable area” denominator.

While the ultimate site layout within lots is not known at this time, intent for the I-S zone is to have buildings lining Nobel Drive, especially along the north side of the drive. While it is anticipated that some buildings on the south side of Nobel Drive will front the street as well, the depth of lots will mean that other buildings will be located further south on the lots. Taller buildings will be placed along Nobel drive to create a more urban feel. The alignment of Nobel Drive that has been provided as part of the Neighborhood Plan creates relatively deep lots. The developer expects to provide cross-access easements to increase mobility across lot lines and allow the lots to function similarly to a more square shaped lot.

	Approximate Density	Expected Total Population*
Single-family Residential	~4 DU per acre	28*
Multifamily Residential	~20 DU per acre	41**
* Assuming 2.78 people per dwelling, per 2000 Census figures for owner-occupied housing. ** Assuming 20 dwelling units and 2.05 people per dwelling, per 2000 Census figures for renter-occupied housing.		



## Neighborhood Plan & Comprehensive Plan

Phase II of the Technology Campus is within a planned growth area, as defined by the Comprehensive Plan, which states that the City should “retain the rural character within the planned growth areas until such time as a neighborhood plan is adopted and the land is added to an urban service area, at which time growth shall be consistent with the Neighborhood Plan.” The Fitchburg Technology Campus Phase II area is covered by the McGaw Park Neighborhood Plan, which was adopted as an appendix to the City’s Comprehensive Plan. The area is within the Central Urban Service Area. The elements of this CDP for Phase II comply with the McGaw Park Neighborhood Plan.

Discussion of land use and design issues as they relate to the Neighborhood and Comprehensive Plans are below. Other aspects of how this Plan relates with the City plans (such as stormwater) are discussed in other sections of this document.

The McGaw Park Neighborhood Plan designates the Phase II area for Business Park development, which is specified as office, light manufacturing, lab space, and supportive commercial. Nearly all of the Phase II area is proposed for the above uses, which is reflected in the planned zoning described below. The small residential component has been added to the Phase II plan to buffer the proposed development from the neighborhood to the north. The planned residential lots also fit in with the proposed street layout, which follows recommendations contained within the Neighborhood Plan. Developing the small lots as business space would be infeasible, and would result in new business park development backing up to existing single-family development. Residential development in the northeastern quadrant of the project area will also be able to better take advantage of the adjacent parks and open space.

The Neighborhood Plan also specifies that commercial development should be pulled up to the street and not placed close to existing residential development. In addition to existing residential development being buffered from future commercial by a new row of residential lots, proposed commercial will be placed far from the single-family homes north of the site by pulling the buildings up along Nobel Avenue. Parking would then be placed to the rear of the buildings. The development anticipates including a structured parking component, either under some buildings or in a dedicated parking structure (or both) to reduce surface parking and the associated impacts while allowing for an increase in overall density.

## Zoning

The largest lot in the Phase II area (Outlot 7) is currently zoned A-X Exclusive Agriculture. The other two lots are zoned Planned Development District—General Implementation Plan (PDD-GIP). Areas to the east and south are zoned A-X; the land to the west is Phase I of the Technology Campus, and is zoned PDD-SIP; the land to the north is zoned R-LM (Low to Medium Density Residential).

The bulk of the area is planned for I-S, Specialized Industrial zoning to accommodate anticipated businesses for the area. The City's zoning code states that the I-S district was *"established to provide an aesthetically attractive working environment exclusively for and conducive to the development and protection of offices, research and development institutions, and certain specialized manufacturing establishments, all of a non-nuisance type. The essential purpose of this district is to achieve development which is practical, feasible, and economical and an asset to the owners, neighbors, and the community and to promote and maintain desirable economic development activities in a park-like setting."*

This description, and the land uses associated with the I-S district, fit well with the intent for the commercial/industrial parcels within the Phase II area.

It should be noted that, regardless of ultimate zoning and land use, the developer intends for the land to remain in agricultural use until it is developed. This means that conditional use permits for agricultural production will likely be sought at the time of rezoning to allow agricultural production to continue on all lots. It is also likely that the developer will seek conditional use permits to exceed the 42-foot maximum building height in the I-S district. The developer anticipates constructing buildings that are four stories tall, which would require exceeding the 42-foot height limit (exact building height in feet will be determined at the time of final design for the individual building).

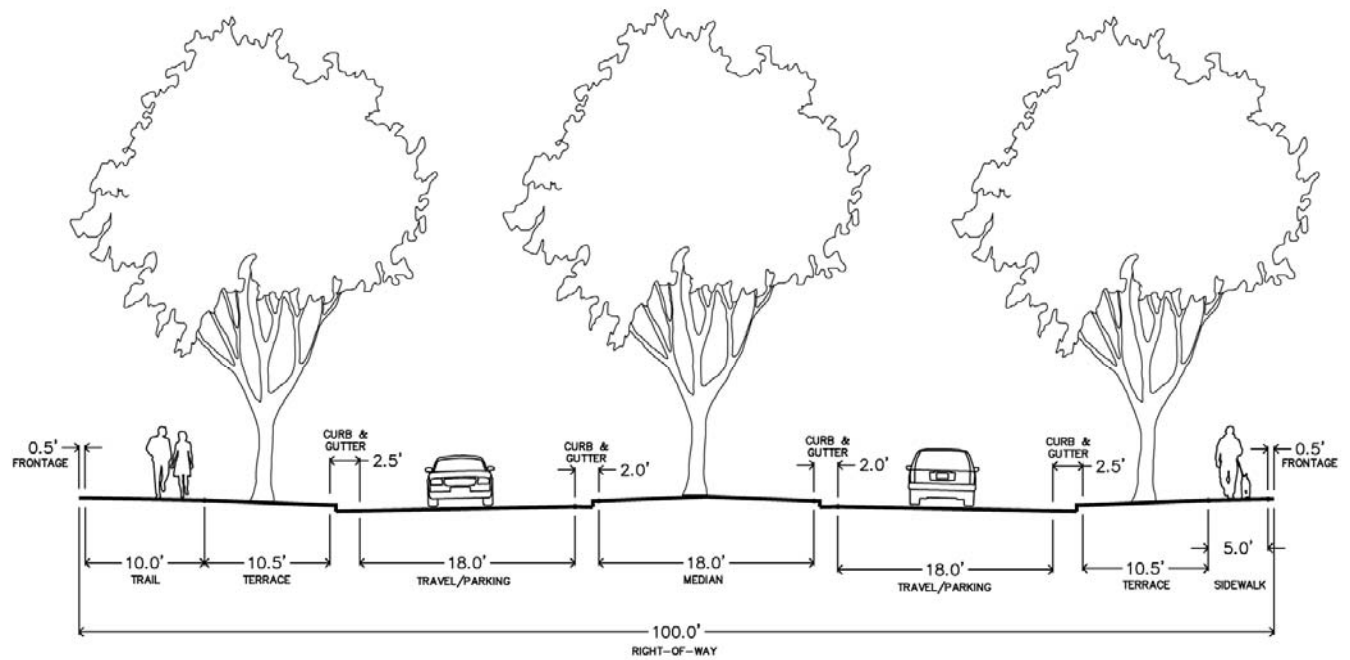
The single-family residential lots will be zoned R-LM to match existing lots and development patterns to the north. Anticipated zoning for the multifamily lot is R-H High Density District. These lots may be zoned A-S Small Lot Agriculture as an intermediate zoning designation until residential demand is sufficient for development.

Anticipated zoning is mapped in the appendix; the map shows anticipated final zoning at full build-out.

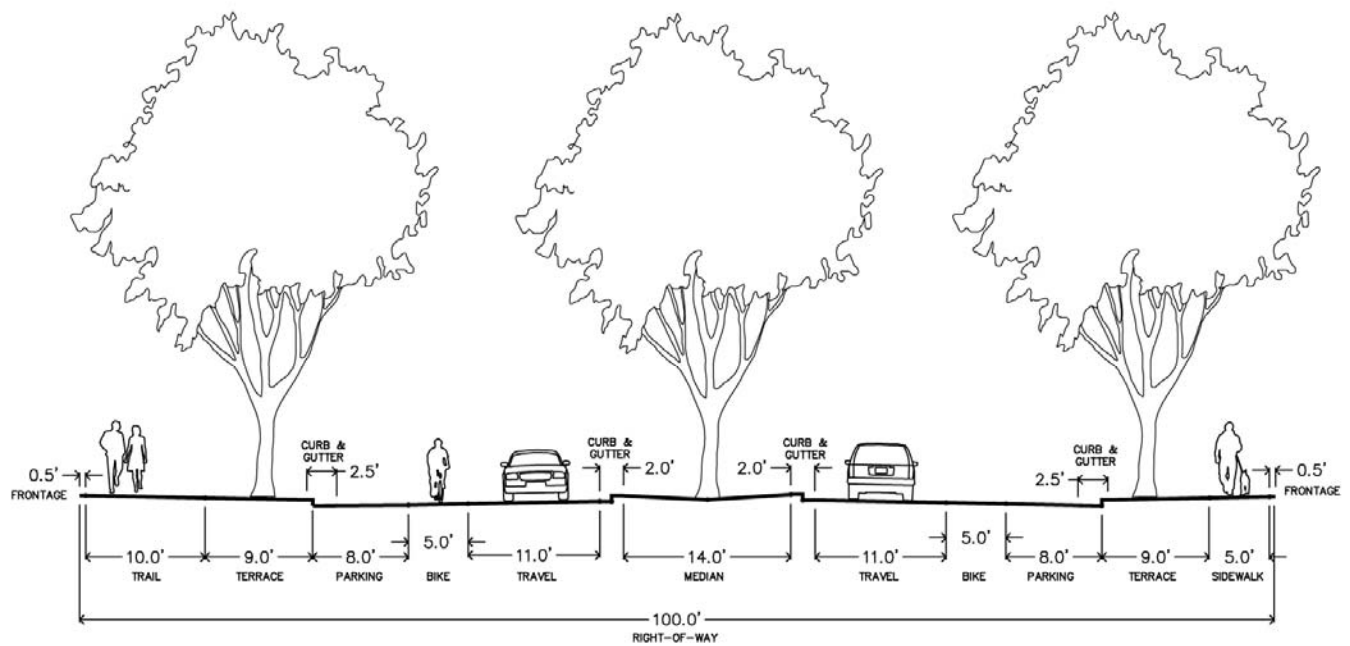
## Streets & Transportation

The Neighborhood Plan designates Nobel Drive as a future collector street, and the primary route through the Neighborhood. The proposed street network, including Nobel Drive, follows the recommended layout shown in the McGaw Park Neighborhood Plan (Figure 9.1), recognizing that the street layout for the Phase II area is an integral part of the City's plans for an interconnected street grid through the McGaw Park area. This Plan anticipates primary business parking being accessed off of Nobel Drive, with secondary access from Mica Road. This will minimize the impact of development on residences to the north and channel traffic towards roads that are best equipped to handle it. Access will be placed sufficiently far from major intersections to avoid conflicts.

Nobel Drive will be extended with the current cross section until the intersection with Mica Road extended. West of the intersection, Nobel Drive will continue with the cross section shown in the McGaw Park Neighborhood Plan. The cross sections of existing Nobel Drive, Nobel Drive west of Mica Road, and Mica Road are all shown on the following pages.

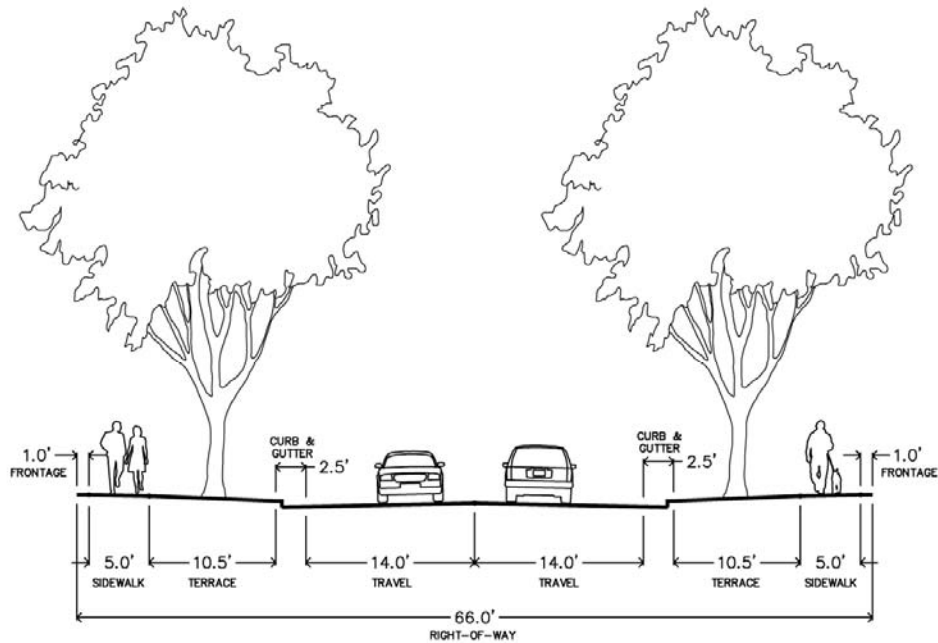


NOBEL DRIVE-EXISTING



NOBEL DRIVE-PROPOSED

The Nobel Drive cross-section includes a ten foot wide multi-use trail on the north side of the street and a five-foot sidewalk on the south side of the street, both of which will extend existing trail/sidewalk network on current Nobel Drive. Other streets will extend existing street cross-section styles, including sidewalks. The multi-



MICA ROAD-PROPOSED

use trail that currently dead-ends just south of Shale Road and just east of Phase I will be extended south to connect with the multi-use trail on the north side of Nobel Drive. These facilities, combined with the bike lanes included in the Nobel Drive cross-section, will provide a well-connected pedestrian and bicycle network to for future development, which will encourage pedestrian and bicycle use as an alternative to driving.

Nobel Drive is served by Metro Transit routes 44 and 48. Both routes currently turn northbound on Research Park Drive, however, the potential to extend service along Nobel Drive will exist once the street is connected to streets further east, which would encourage transit use by future employees of the Technology Campus.

All streets will be dedicated to the public.

## Parking

The development team hopes to integrate under-building and structured parking into the development, which would lessen stormwater impacts and allow the development to achieve the 0.5 floor area ratio described in the Neighborhood Plan. However, because the Technology Campus will be competing with other suburban office parks that use less expensive surface parking to meet parking requirements, financial assistance will be needed from the City to implement structured and under-building parking. The McGaw Park plan states that the City would consider such assistance in order to facilitate compact development. Land has been planned for a parking ramp south of Nobel Drive. If future City assistance for parking did not materialize, the development team will develop the parcel in a similar fashion to other parcels in Phase II.

There are no specific parking limits or recommendations in the McGaw Park Neighborhood Plan for the Tech Campus area, other than the overall statements that structured parking is encouraged and that off-street parking should generally be minimized. The development team will utilize the City's parking requirements as a basis for designing parking for buildings, and may request reduced parking requirements from the Plan Commission, as allowed by the parking standards.

If a parking structure is constructed, it is anticipated that it would be located in the second lot west of Mica Road south of Nobel Drive. The configuration of the parking garage and whether it would be on its own lot would need to be negotiated with the City at the time the facility is designed.

## Stormwater Management

The stormwater management goals and objectives for Fitchburg Technology Campus-Phase 2 (FTCII) are consistent with the McGaw Park Neighborhood Plan. These objectives include:

- Prevent increases in stormwater runoff rates;
- Improve and preserve water quality in all water bodies;
- Maintain natural flows and groundwater recharge;
- Minimize negative impacts to wetlands and springs; and
- Preserve the natural habitat function of the North and South Branches of Swan Creek.

Two publicly owned and maintained regional stormwater management facilities are proposed in the outlots located in the northwest and northeast corners of FTCII. These stormwater management facilities are proposed to treat the stormwater from FTCII as well as approximately 31.48 acres west of FTCII. The stormwater management facilities each consist of a detention basin (which acts as a sediment forebay) and an infiltration basin.

The area west of FTCII is not part of the McGaw Park Neighborhood Plan and has been modeled to satisfy only the City, County, and State stormwater requirements. An infiltration basin was constructed due to the development of lots 20 and 21 (New Venture Center II). This basin will be removed as part of the development of FTCII. The stormwater from lots 20 and 21 will be conveyed to the northwest stormwater management facility, where it will be detained, treated for sediment control, and infiltrated to meet or exceed current City, County, and State requirements.

The area north of FTCII is treated by an existing regional basin located north of the proposed northeast stormwater management facility. However, the storm sewer in this area is designed to capture only up to the 10-year design storm event. The stormwater from storm events larger than the 10-year event overflows to the northeast stormwater management facility in FTCII. This passby flow has been included in the sizing of the northeast basin.

The FTCII site has been divided into the streets, residential lots, commercial lots, and outlots (stormwater management and parks) for modeling purposes. An impervious surface ratio (ISR) of 0.65 has been used for the commercial lots. The ISR may exceed 0.65 if the stormwater management facilities allow for it or if additional areas are used within the commercial lots for infiltration. These calculations will be finalized when the soil test pits are completed. A majority of FTCII site is conveyed to the northeast stormwater management facility by overland surface drainage, grassed swales and storm sewer piping. Conveyance by storm sewer piping will be minimized to promote infiltration and groundwater recharge. Focus will be placed on integrating the conveyance routes into the surrounding development patterns in an aesthetic manner, incorporating recreational opportunities and providing proper hydraulic function.

Infiltration requirements for FTCII will be satisfied at the northeast and northwest stormwater management facilities providing the soils are adequate. Soil test pits will be performed in each outlot to determine whether or not the soils are suitable for infiltration.

Stormwater has been modeled to meet applicable City (including neighborhood plan), State, and Capital Area Regional Planning Commission (CARPC) requirements. For a more detailed stormwater discussion, please see the separately submitted stormwater report.

## Open Space

Two stormwater areas are planned for Phase II development, one at the northwest corner, and one at the northeast corner. Both are planned as regional ponds; the northeast pond, just to the south of Quarry Hill Park, will be the larger of the two. Phase II includes two acres of new parkland along its eastern boundary, south of Nobel Drive. This planned two-acre parcel will fulfill parkland dedication requirements for the proposed residential development, and will buffer Phase II development from planned future residential development to the east. It also implements recommended open space, as mapped on the Growth Model land use map in the Neighborhood Plan, and will provide space for a future path, which is also shown in the Neighborhood Plan. The two stormwater ponds and the proposed parkland will be turned over to the City.

## Utilities

### Public Water

The proposed water main will tie into existing water mains located at the end of Mica Road, Granite Road, Quartz Road, and Nobel Road. Connection at these locations will provide adequate looping and reliability. The proposed project elevations are consistent with adjacent developments and as such will provide for adequate water pressures. The existing sources of supply under current conditions will support the fully developed Fitchburg Technology Campus-Phase 2 development.



### Sanitary Sewer

The proposed sanitary sewer will tie into the existing sanitary manhole located at the northern limits of Fitchburg Technology Campus-Phase 2 at Mica Road. This existing sanitary sewer, which the proposed site discharges to, is part of the Woods Hollow interceptor. The Woods Hollow Interceptor drains northward for a substantial distance through the Nine Springs E-way. This Interceptor has limited capacity (781 GPM peak flow) for Fitchburg Technology Campus-Phase 2, however this sufficient for the proposed land use (307 GPM peak flow). The topography of the proposed site allows for the majority of the proposed building sewers to flow by gravity to the proposed public sanitary sewer. However, depending on future building layouts and locations, a small portion of the southeast corner of the proposed site will not be accessible to the gravity sewer service. Alternatives available to service this area include installation of individual grinder pumps at each facility. Lift stations and private sewer systems are prohibited.

### Soils

The map below shows soil types according to the USDA. Soil types are similar or the same in FTCII as they are in FTCI to the west, and are therefore expected to be able to handle similar styles of development. Soil borings to determine the precise composition of soils and ability to infiltrate stormwater are being performed the week of January 31st, and are expected to be compiled prior to the February Plan Commission meeting.



Soil Symbol	Soil Name	Acres in Map Area	Percent
DnB	Dodge silt loam, 2 to 6 percent slopes	8.4	10.80%
GwB	Griswold loam, 2 to 6 percent slopes	0.1	0.10%
GwC	Griswold loam, 6 to 12 percent slopes	4.3	5.60%
MdC2	McHenry silt loam, 6 to 12 percent slopes, eroded	14.1	18.10%
PnB	Plano silt loam, 2 to 6 percent slopes	5.4	6.90%
RnB	Ringwood silt loam, 2 to 6 percent slopes	16.1	20.70%
ScB	St. Charles silt loam, 2 to 6 percent slopes	21.6	27.70%
TrB	Troxel silt loam, 1 to 3 percent slopes	5.2	6.70%
VrB	Virgil silt loam, 1 to 4 percent slopes	2.4	3.10%
WxD2	Whalan silt loam, 12 to 20 percent slopes, eroded	0.2	0.30%
		77.8	100.00%

## Phasing & Implementation

The Neighborhood Plan calls for the Technology Campus to begin construction as part of Phase I implementation of the Plan. At this point, the exact build-out schedule for Phase II is not known; the development team is aiming to have the land fully entitled to allow a rapid response to prospective tenants. Having land available and already zoned will give the area a leg up over many other sites in attracting potential tenants. It is anticipated that construction will occur over a 10-20 year period. Development will generally progress from west to east, as market conditions dictate. The development team anticipates that the planned parking ramp will be constructed later in the overall build-out — it will allow “infilling” of density to achieve the City’s planned 0.5 FAR. Two outlots are shown on the CDP concept plat for phasing purposes.

There are approximately 43 acres available for development in the CDP area. If the area is developed at a relatively even pace over the next 10 years, FTCII would contribute about 4.3 acres per year towards the City’s average annual development goal of 75 acres, or 5.7% of the total per-year allowance. It is impossible to know at what pace other development in Fitchburg will progress in the future, and therefore impossible to determine how the pace of other development will impact FTCII year-to-year. Because the FTCII area is planned for development in the McGaw Park Neighborhood Plan, the development team hopes the City will allocate a fair share of the 75-acre per-year development “quota” to FTCII as development is proposed in the Campus over the next 10-20 years.

# APPENDICIES

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Fitchburg Technology Campus Phase II CDP

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A: Fitchburg Technology Park, Phase II Concept Renderings

B: Zoning Map Excerpt—Existing Zoning

C: Future Zoning

D: Open Space Concept Map

E: CDP Concept Plat (2 pages)

F: Utility Plan

G: Sanitary Sewer Capacity Calculations





## FITCHBURG TECHNOLOGY CAMPUS



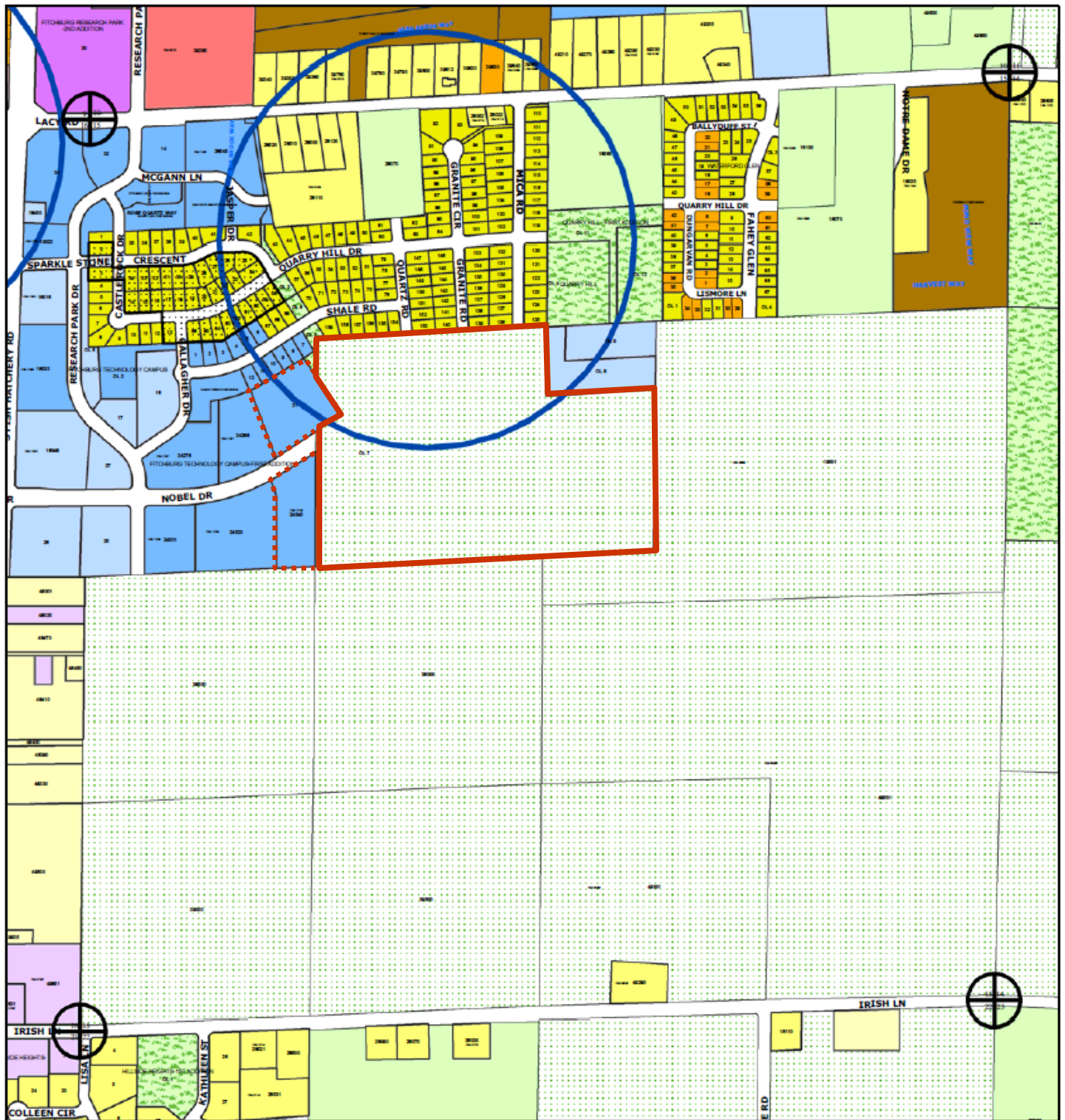




## FITCHBURG TECHNOLOGY CAMPUS







## CITY OF FITCHBURG

## SECTION 15 TOWNSHIP 6N RANGE 9E

0 200 400 800 1,200 1,600 2,000 Feet

### City of Fitchburg, Zoning Districts

	R-R; Rural Residential
	R-L; Low Density Residential
	R-LM; Low to Medium Density Residential
	R-HA; Former R-4 Residential
	R-M; Medium Density Residential
	R-H; High Density Residential

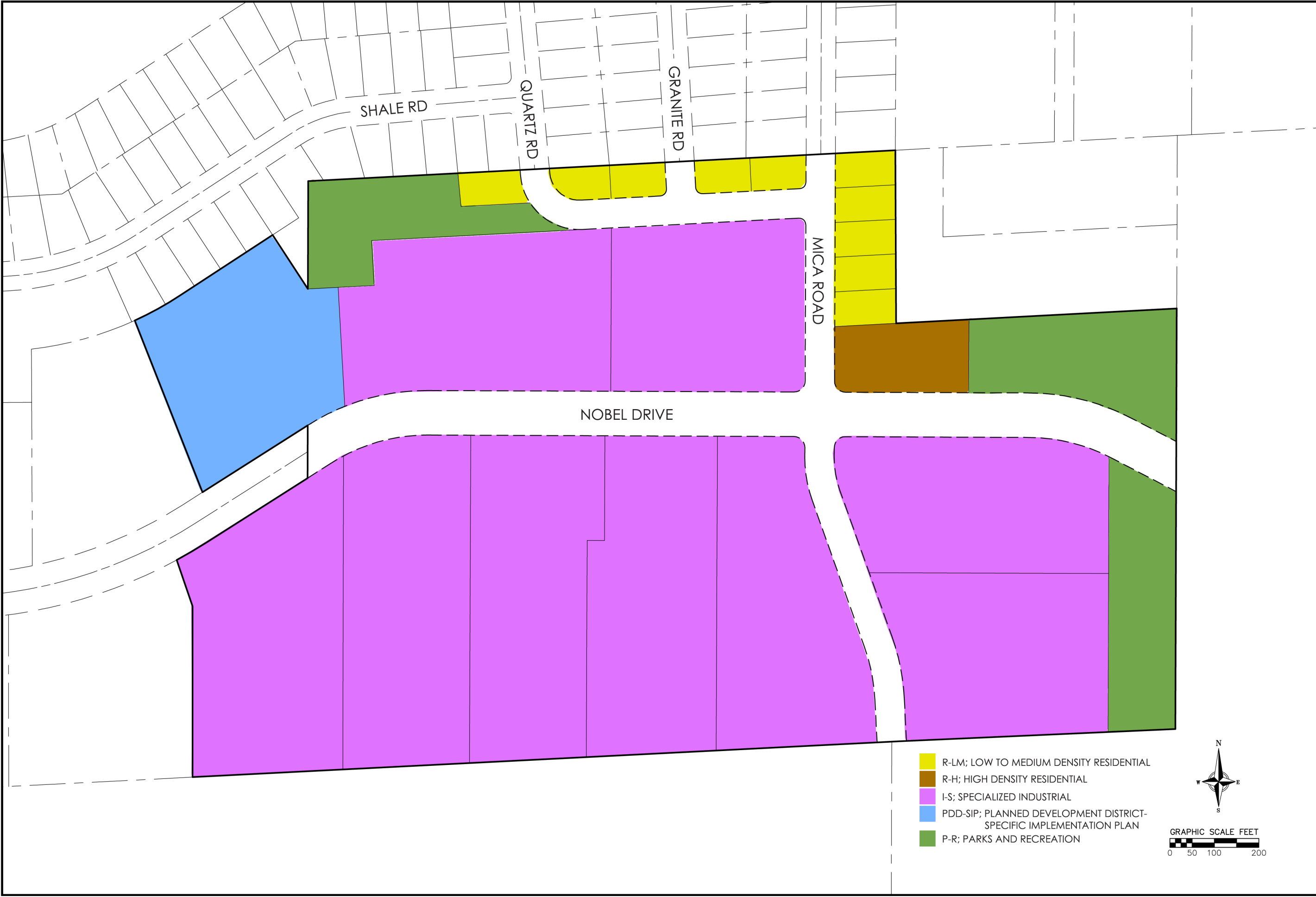
	B-P; Professional Business
	B-G; General Business
	B-H; Highway Business
	R-D; Rural Development
	I-S; Specialized Industrial
	I-G; General Industrial

	PDD-GIP; Planned Development District - General Implementation Plan
	PDD-SIP; Planned Development District - Specific Implementation Plan
	P-R; Park and Recreation District
	A-T; Transitional Agriculture
	A-X; Exclusive Agriculture
	Reduced Setbacks
	Wellhead Protection Area

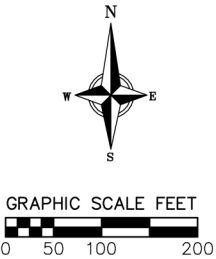


Prepared by: Planning and Zoning Department 07/09





- R-LM; LOW TO MEDIUM DENSITY RESIDENTIAL
- R-H; HIGH DENSITY RESIDENTIAL
- I-S; SPECIALIZED INDUSTRIAL
- PDD-SIP; PLANNED DEVELOPMENT DISTRICT-SPECIFIC IMPLEMENTATION PLAN
- P-R; PARKS AND RECREATION



ZONING

FITCHBURG TECH CAMPUS- PHASE II  
COMPREHENSIVE DEVELOPMENT PLAN  
CITY OF FITCHBURG, WI

REVISIONS		REVISIONS	
NO.	DATE	NO.	DATE

SCALE
AS SHOWN
DATE
01/18/2011
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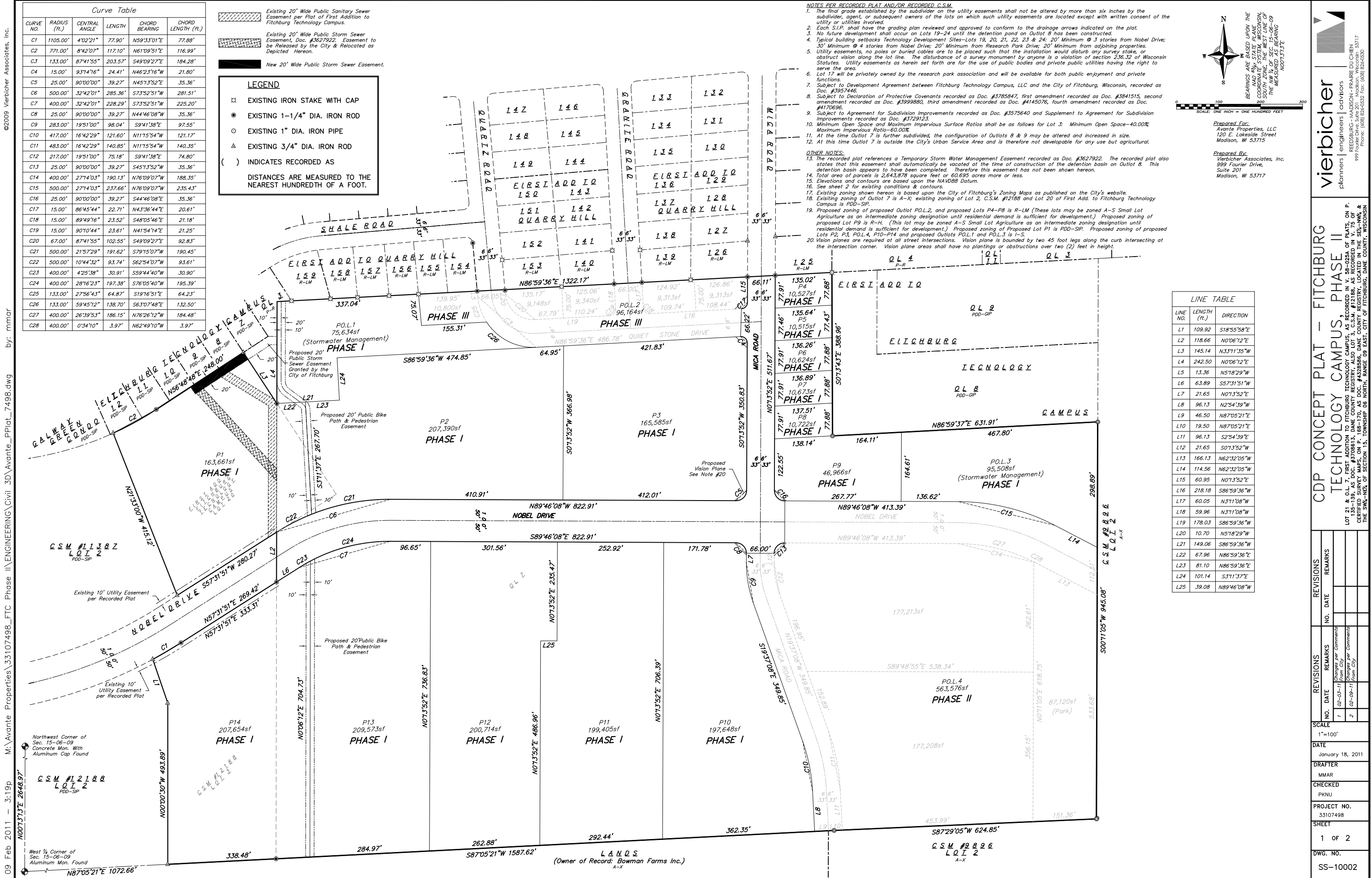
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1 OF 1
DWG. NO.



DWG. NO.	SHEET		PROJECT NO.		CHECKED	DRAFTER	DATE	SCALE	REVISIONS		REVISIONS	
	1	OF 1	33107498.00						NO. DATE	REMARKS	NO. DATE	REMARKS

**PARKS & OPEN SPACE**  
FITCHBURG TECH CAMPUS-- PHASE II  
COMPREHENSIVE DEVELOPMENT PLAN  
CITY OF FITCHBURG, WI





EXISTING SANITARY SEWER SCHEDULE	
ExSN#1 RIM=1036.39' N INV=1022.24' E INV=1022.22' SW INV=1022.20'	ExSN#2 RIM=1029.26' NE INV=1018.56' S INV=1018.61' SW INV=1018.61'
ExSN#3 RIM=1029.29' S INV=1017.29' N INV=1017.24' W INV=1017.19'	ExSN#4 RIM=1025.80' S INV=1018.10' N INV=1018.05'
ExSN#5 RIM=1029.29' E INV=1017.39' S INV=1017.29' N INV=1017.24' W INV=1017.19'	ExSN#6 RIM=1026.15' S INV=1013.80' N INV=1013.75'
ExSN#7 RIM=1027.56' S INV=1012.86' N INV=1012.81'	ExSN#8 RIM=1009.75' S INV=997.60' N INV=997.55'
ExSN#9 RIM=1011.68' S INV=996.83' N INV=996.78'	

EXISTING STORM SEWER SCHEDULE			
ExSS#1 TC=1036.09' SE INV=1032.60'	ExSS#2 TC=1036.09' N INV=1031.39' W INV=1030.57' S INV=1030.54' E INV=1030.29'	ExSS#3 RIM=1033.37' INV=1027.42' TC=1023.14'	ExSS#4 TC=1029.09' INV=1022.70'
ExSS#5 TC=1029.49' N INV=1023.84' S INV=1023.90'	ExSS#6 TC=1029.48' N INV=1024.38' S INV=1024.15'	ExSS#7 TC=1029.08' RIM=1028.92' N INV=1024.17' S INV=1024.12'	ExSS#8 TC=1028.19'
ExSS#9 RIM=1028.92' N INV=1024.17' S INV=1024.12'	ExSS#10 TC=1028.28'	ExSS#11 RCPEND INV=1020.65'	ExSS#12 SSEND INV=1020.47'
ExSS#13 SSEND INV=1021.81'	ExSS#14 INLET BEEHIVE TC=1023.14' RIM=1022.41'	ExSS#15 SSEND INV=1019.51'	ExSS#16 SSEND INV=1021.71'
ExSS#17 TC=1025.69' N INV=1024.38' S INV=1022.64'	ExSS#18 TC=1025.94' S INV=1022.84'	ExSS#19 TC=1025.71' W INV=1021.11' N INV=1021.11' E INV=1021.06'	ExSS#20 TC=1025.94' N INV=1021.59' S INV=1021.34'
ExSS#21 TC=1028.69' N INV=1024.44' W INV=1024.44' S INV=1024.19'	ExSS#22 TC=1029.36' N INV=1025.56' E INV=1025.51'	ExSS#23 TC=1029.73' W INV=1026.03' S INV=1025.93'	ExSS#24 TC=1029.74' W INV=1026.29' E INV=1026.24'
ExSS#25 TC=1030.46' W INV=1026.33' S INV=1026.18'	ExSS#26 TC=1030.63' N INV=1027.38' E INV=1027.336'	ExSS#27 TC=1030.96' S INV=1027.62'	ExSS#28 TC=1025.58' W INV=1019.58' E INV=1019.18'
ExSS#29 TC=1025.63' INV=1018.83'	ExSS#30 TC=1009.05' W INV=1004.70' E INV=1004.60'	ExSS#31 TC=1009.11' W INV=1004.36' E INV=1004.41'	ExSS#32 TC=1011.17' SW INV=1007.22' S INV=1007.12'
ExSS#33 TC=1011.01' NE INV=1008.21'	ExSS#34 RIM=1005.09'	ExSS#35 12" RCP W/ORIFICE E INV=990.32'	ExSS#36 SSEND INV=989.48'
ExSS#37 SS OVERFLOW INV=995.12'	ExSS#38 SSEND INV=989.53'	ExSS#39 SSEND INV=1023.71'	

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SCALE: ONE INCH = ONE HUNDRED FEET

BEARINGS ARE BASED UPON THE  
MADISON, WISCONSIN  
SOUTH ZONE, THE WEST LINE OF  
THE NW 1/4 OF SEC. 15-06-09  
MEASURED AS BEARING  
N001°15'E

Prepared For:  
Avante Properties, LLC  
120 E. Lakeside Street  
Madison, WI 53715

Prepared By:  
Vierbicher Associates, Inc.  
999 Fourier Drive,  
Suite 201  
Madison, WI 53717

vierbicher

planners engineers advisors

REEDSBURG - MADISON - FRAIRIED JUCHEN  
999 Fourier Drive, Suite 201  
Madison, WI 53717  
Phone: (608) 824-9332 Fax: (608) 824-9330

CDP CONCEPT PLAT - FITCHBURG  
TECHNOLOGY CAMPUS, PHASE II

LOT 21 & O.L. 7, FIRST ADDITION TO FITCHBURG TECHNOLOGY CAMPUS, AS RECORDED IN V. 98-025A OF PLATS, ON P. 135-139, AS DOC. #3708613, DANE COUNTY REGISTRY, ALSO LOT 3, C.S.M. #12188, AS RECORDED IN V. 75 OF CERTIFIED SURVEY MAPS, ON P. 168-170, AS DOC. #4328586, DANE COUNTY REGISTRY, LOCATED IN THE SE1/4-NW1/4 & THE SW1/4-NE1/4 OF SECTION 15, TOWNSHIP 08 NORTH, RANGE 09 EAST, CITY OF FITCHBURG, DANE COUNTY, WISCONSIN

REVISIONS		REVISIONS	
NO.	DATE	NO.	DATE
1	02-03-11	2	02-09-11
Change per Comments		Change per Comments	
From City		From City	
SCALE		DATE	
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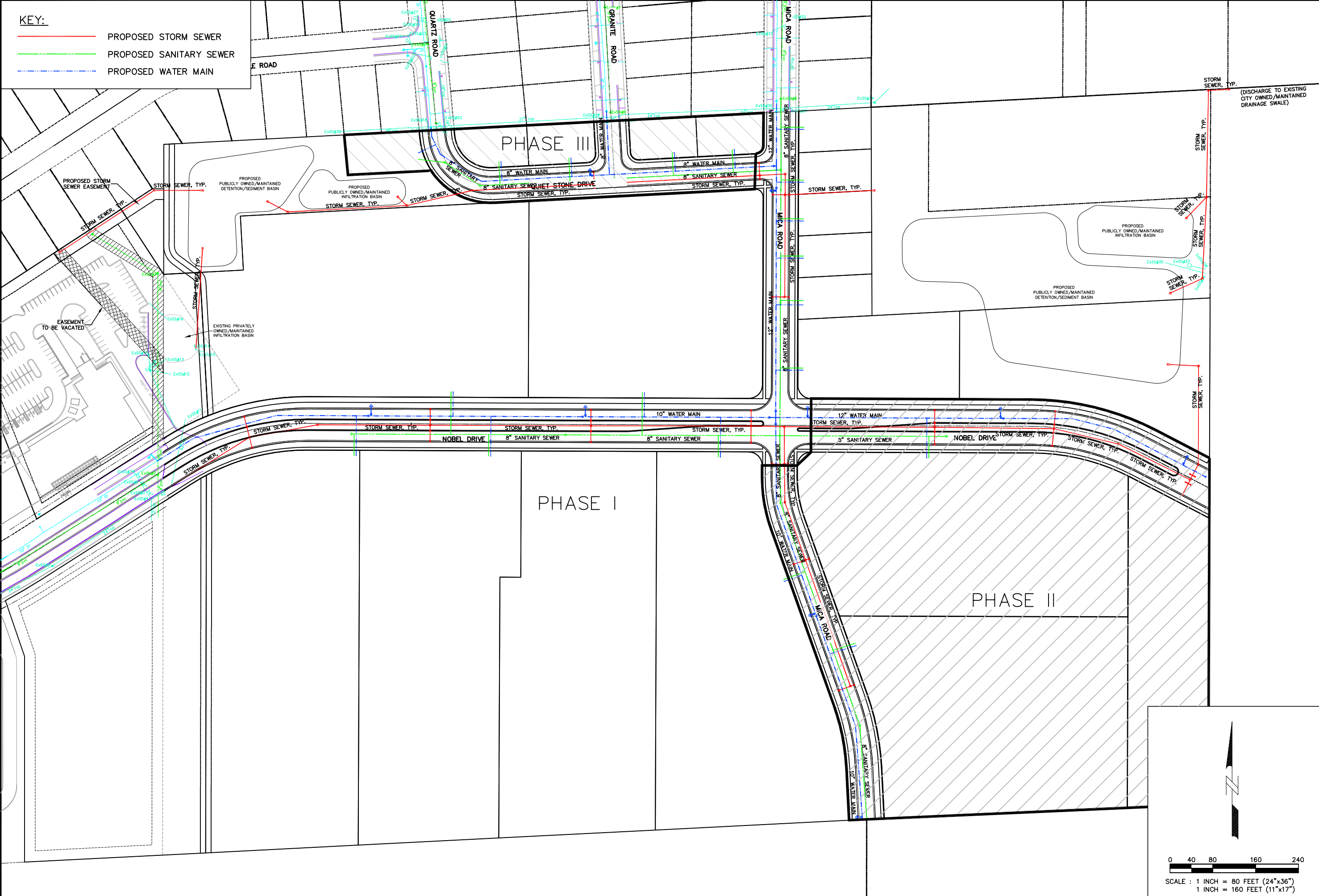
09 Feb 2011 - 5:48p M:\Avante Properties\33107498\_FTC Phase II\ENGINEERING\Civil 3D\Fitchburg Technology Campus\_Base Eng\_7498.dwg by: jdoj ©2009 Vierbicher Associates, Inc.

KEY:

PROPOSED STORM SEWER

PROPOSED SANITARY SEWER

PROPOSED WATER MAIN



vierbicher

planners | engineers | advisors

REDSBURG - MADISON - PRAIRIE DU CHIEN  
999 FORT AUBURN ROAD  
Phone: (608) 824-5532 Fax: (608) 824-5530

FITCHBURG TECHNOLOGY CAMPUS

PHASE 2

UTILITY PLAN

FITCHBURG, WI

REVISIONS		REVISIONS	
NO.	DATE	NO.	DATE
1	02/03/11		
2	02/09/11		

SCALE

AS SHOWN

DATE

01/17/11

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PROJECT NO.

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1 OF 1

DWG. NO.

## **Sanitary Sewer Capacity Calculations**

### **Fitchburg Technology Campus - Phase 2**

01/18/11

#### ***Site Characteristics:***

- 1) 10 Single Family Residential Lots
- 2) 1 Multifamily Residential Lot
- 3) 8 Non-Residential Lots (1,379,951 sq. ft. in area)

#### ***Assumptions:***

- 1) Single Family Lots will have 2.78 people/dwelling (2000 Census). A resident will generate 100 GPD.
- 2) Multifamily Lot will have 20 dwelling units (DU) and 2.05 people/dwelling (2000 Census). A resident will generate 100 GPD.
- 3) Non-Residential Lots will have a floor area ratio (FAR) of 0.50. An employee will generate 150 GPD per 1000 sq. ft. of gross floor area.

#### ***Proposed Sewage Flow Based on Site Characteristics and Assumptions:***

##### Single Family Lots:

Avg Daily Flow = 10 Residential Lots X 2.78 people/dwelling X 100 GPD = 2,780 GPD

Peak Daily Flow = Avg Daily Flow X 4 = 2,780 GPD X 4 = 11,120 GPD

##### Multifamily Lot:

Avg Daily Flow = 20 DU X 2.05 people = 41 people X 100 GPD = 4,100 GPD

Peak Daily Flow = Avg Daily Flow X 4 = 4,100 GPD X 4 = 16,400 GPD

##### Non-Residential Lots:

Avg Daily Flow = 1,379,951 SQ. FT. X 0.50 X (150 GPD/1000 SQ. FT.) = 103,496 GPD

Peak Daily Flow = Avg Daily Flow X 4 = 103,496 GPD X 4 = 413,984 GPD

##### Total Proposed Sewage Flow For Fitchburg Technology Campus - Phase 2:

**Avg Daily Flow = 2,780 + 4,100 + 103,496 = 110,376 GPD**

**Peak Daily Flow = 11,120 + 16,400 + 413,984 = 441,504 GPD**

#### ***Available Capacity:***

Based on the McGaw Park Neighborhood Plan, there is a peak available capacity of 781 GPM or 1,124,640 GPD

**Peak Daily Flow Capacity (1,124,640 GPD) > Peak Daily Flow Proposed (441,504 GPD)**



## **INFILTRATION AND RECHARGE SUMMARY**

FITCHBURG TECHNOLOGY CAMPUS - PHASE 2

Date: 2/3/11

The infiltration and recharge requirements, as determined by CARPC, for the Fitchburg Technology Campus - Phase 2 (FTCII) are as followed:

- Install stormwater practices in each phase prior to other land disturbing activities in that phase, and protect these practices from compaction and sedimentation during land disturbing activities or restore them after land disturbing activities are completed.
- Control post development runoff volumes to be equal to or less than pre-development runoff volumes for the one-year average annual rainfall period as well as the five year average rainfall period as defined by WisDNR.
- Maintain, at least, the WGNHS pre-development groundwater recharge rates (currently identified as 9 to 10 inches per year for the amendment area) with no caps on the extent of infiltration areas.
- Provide deep tilling to restore all areas compacted during construction.
- Stormwater practices are to be publicly managed, or have a perpetual legal maintenance agreement finalized with the local municipal authority.

Two proposed stormwater facilities, one in the northeast corner and one in the northwest corner of the FTCII site will be utilized to address these requirements as shown in the calculations below. The northwest facility has been sized to accommodate the relocating of the existing infiltration basin for the adjacent New Venture Center II site.

Actual infiltration rates will be determined upon completion of the soil test pits.

## **INFILTRATION AND RECHARGE CALCULATIONS**

### **EXISTING CONDITIONS:**

Infiltration volume required due to existing Fitchburg Technology Campus, Phase 2 (FTCII) site  
= FTCII Site Area X 100% Target Stay-on Requirement (See Exhibit #1)  
= 2,415,783 SF X 27.8"  
= 5,596,564 CF

Infiltration volume required due to relocating of infiltration basin for New Venture Center II (NVCII) site  
= NVCII site area X 60% Target Stay-on Requirement (See Exhibit #2)  
= 311,012 X 12.2"  
= 316,196 CF

**Total Infiltration Volume Required**=5,596,564 CF + 316,196 CF = **5,912,760 CF**

**Recharge Volume Required** = Site Area X Recharge Depth Required = 2,415,783 SF X 9.5" = **1,912,495 CF**

### **PROPOSED CONDITIONS:**

Infiltration volume provided by Northeast Infiltration Basin = Drainage Area X Stay-on provided by basin (See Exhibit #3)  
= 3,110,911 SF X 17.93"  
= 4,648,220 CF

Infiltration volume provided by Northwest Infiltration Basin = Drainage Area X Stay-on provided by basin (See Exhibit #4)  
= 820,949 SF X 15.82"  
= 1,082,284 CF

Infiltration volume provided by Parkland = Area of Parkland X 100% Target Stay-on.  
= 87,033 SF X 27.8"  
= 201,626 CF

Infiltration volume provided by Outlots = (Area of Outlots - Effective Infiltration Area) X 100% Target Stay-on.  
= (311,572 - 20,000) X 27.8"  
= 675,475 CF

Infiltration volume provided by Commercial Lots = Area of Commercial Lots X (1.00 - ISR) X 100% Target Stay-on.  
= 1,535,051 SF X (1.00-0.65) X 27.8"  
= 1,244,671 CF

Infiltration volume provided by Residential Lots = Area of Residential Lots X 50% X 100% Target Stay-on.  
= 147,702 SF X 0.50 X 27.8"  
= 171,088 CF

Infiltration volume provided by Nobel Drive median = Area of Nobel Drive Median X 100% Target Stay-on.  
= 26,697 SF X 27.8"  
= 61,848 CF

**Total Infiltration Volume Provided** = 4,648,220 + 1,082,284 + 201,626 + 675,475 + 1,244,671 + 171,088 + 61,848  
= **8,085,212 CF**

Recharge volume provided by Northeast Infiltration Basin = Drainage Area X Recharge provided by basin (Recarga Output)  
= 3,110,911 SF X 3.46"  
= 896,979 CF

Recharge volume provided by Northwest Infiltration Basin = Drainage Area X Stay-on provided by basin (Recarga Output)  
= 820,949 SF X 3.35"  
= 229,182 CF

Recharge volume provided by Parkland = Area of Parkland X 9.5".  
= 87,033 SF X 9.5"  
= 68,901 CF

Recharge volume provided by Outlots = (Area of Outlots - Effective Infiltration Area) X 9.5".  
= (311,572 - 20,000) X 9.5"  
= 230,828 CF

Recharge volume provided by Commercial Lots = Area of Commercial Lots X (1.00 - ISR) X 9.5".  
= 1,535,051 SF X (1.00-0.65) X 9.5"  
= 425,338 CF

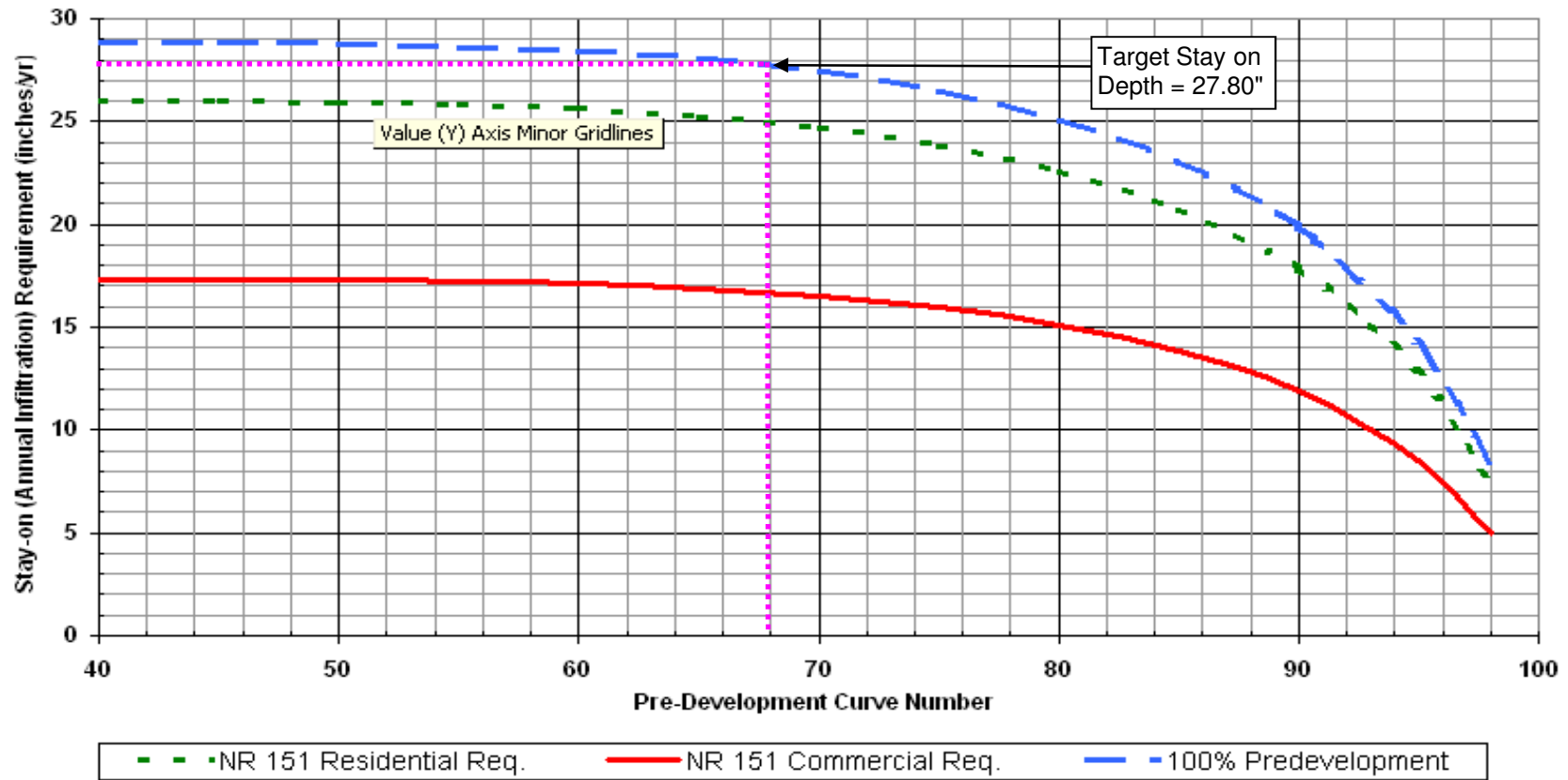
Recharge volume provided by Residential Lots = Area of Residential Lots X 50% X 9.5".  
= 147,702 SF X 0.50 X 9.5"  
= 58,465 CF

Recharge volume provided by Nobel Drive median = Area of Nobel Drive Median X 9.5".  
= 26,697 SF X 9.5"  
= 21,135 CF

**Total Recharge Volume Provided** = 896,979 + 229,182 + 68,901 + 230,828 + 425,338 + 58,465 + 21,135  
= **1,930,828 CF**

EXHIBIT #1

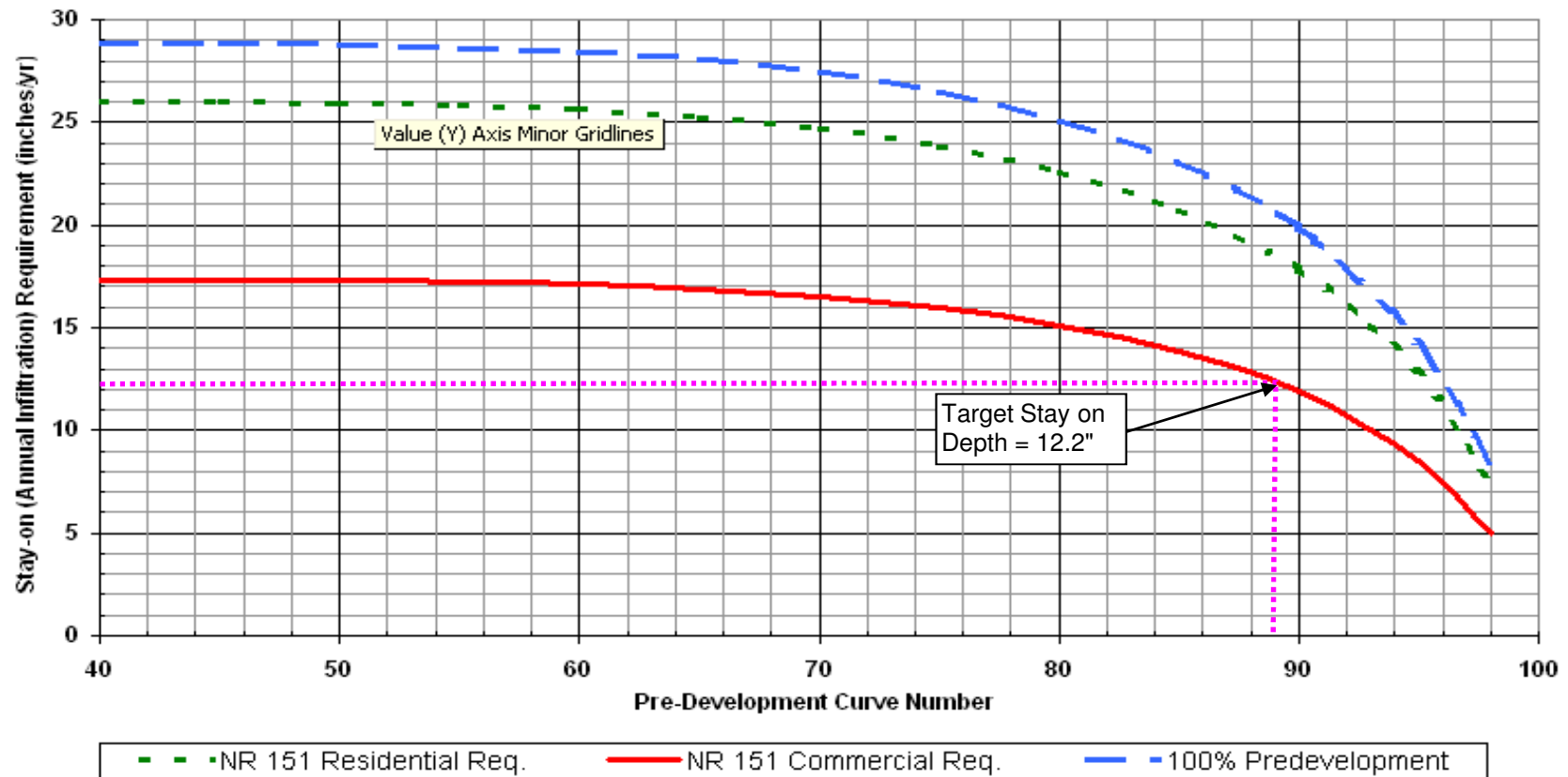
CHART 1 - TARGET STAY-ON (ANNUAL INFILTRATION) REQUIREMENT  
Based on the annual 1981 Rainfall for Madison, WI



Note: 100% Predevelopment represents infiltration under predevelopment conditions

EXHIBIT #2

CHART 1 - TARGET STAY-ON (ANNUAL INFILTRATION) REQUIREMENT  
Based on the annual 1981 Rainfall for Madison, WI




Note: 100% Predevelopment represents infiltration under predevelopment conditions



# EXHIBIT #3

## NORTHWEST INFILTRATION BASIN

Units English



**RECARGA Version 2.3**  
Bioretention/Raingarden Sizing Program

### Planview Data

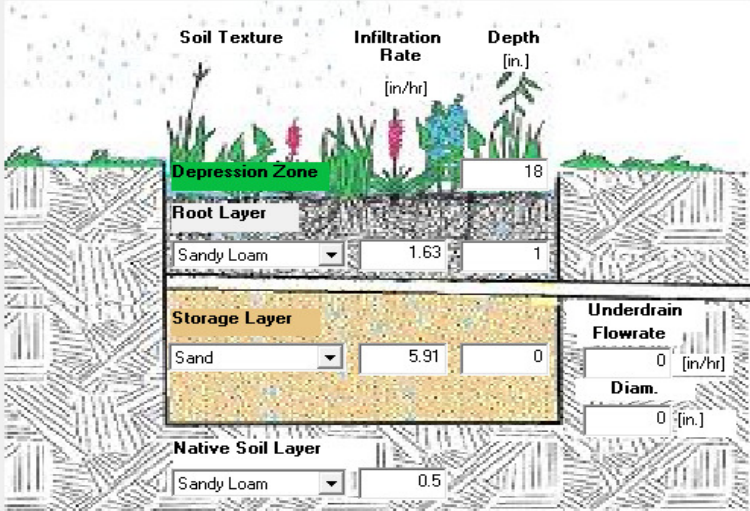
Facility Area  [sf]

Tributary Area  [acre]

Percent Impervious

Pervious CN

### Facility Inputs



### Results

**Plant Survivability**  
(Less than 48 hours max. ponding is desirable)

	max.	Total
Hrs. Ponded	93.75	1345
Number of overflows		29

**Tributary Runoff** [in]

Precipitation

Impervious Runoff

Pervious Runoff

**Raingarden Water**

	[in.]	%
Runon	16.3871	56.8799
Runoff	12.9911	45.0925
Recharge	3.3545	11.6434
Evaporation	0.02009	0.069738
Underdrain	0	0
Soil Moisture	0.00274	0.009540
<b>Stay-on</b>	<b>15.818</b>	54.9075

**RUN SIMULATION**

**CLEAR RESULTS**

### Files

Regional Ave. ET  [in./day]

Simulation Type Continuous

Input File Length  days

Precip. File Name

Output File Name

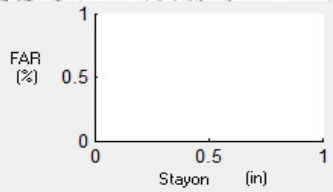
☐ Summary ☐ Record

### Target Stay-on

Target Stay-on  [in]

Facility Area Ratio (%)  [%]


**Run FAR**



Developed by the University of Wisconsin-Madison  
Civil & Environmental Engineering Water Resources Group  
(D. Atchison, A. Dussailiant, L. Severson)

## EXHIBIT #4 NORTHEAST INFILTRATION BASIN

Units: English



**RECARGA Version 2.3**  
Bioretention/Raingarden Sizing Program

### Planview Data

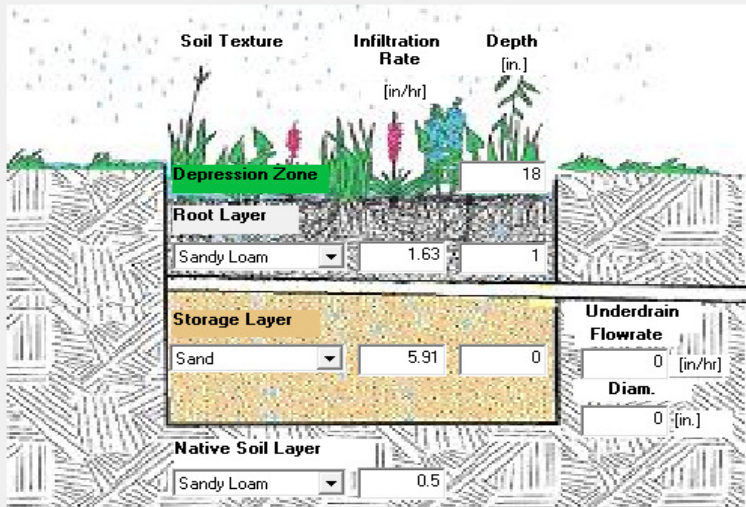
Facility Area:  [sf]

Tributary Area:  [acre]

Percent Impervious:

Pervious CN:

### Facility Inputs



### Results

**Plant Survivability**  
(Less than 48 hours max. ponding is desirable)

	max.	Total
Hrs. Ponded	94.25	1314
Number of overflows		29

**Tributary Runoff** [in]

Precipitation:

Impervious Runoff:

Pervious Runoff:

**Raingarden Water**

	[in.]	%
Runon	14.3855	49.9322
Runoff	10.8839	37.7783
Recharge	3.4581	12.0032
Evaporation	0.02206	0.076575
Underdrain	0	0
Soil Moisture	0.00290	0.010069
<b>Stay-on</b>	<b>17.926</b>	<b>62.2217</b>

**RUN SIMULATION**

**CLEAR RESULTS**

### Files

Regional Ave. ET:  [in./day]

Simulation Type: Continuous

Input File Length:  days

Precip. File Name:

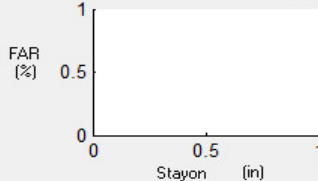
Output File Name:

☐ Summary ☐ Record

Target Stay-on:  [in]

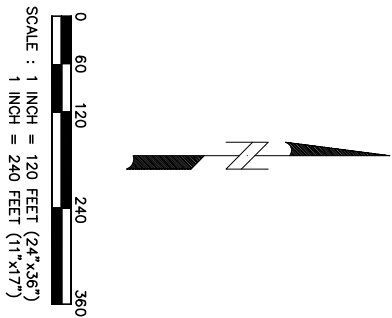
Facility Area Ratio (%):  [%]

**Run FAR**



Developed by the University of Wisconsin-Madison  
Civil & Environmental Engineering Water Resources Group  
(D. Atchison, A. Dussailant, L. Severson)

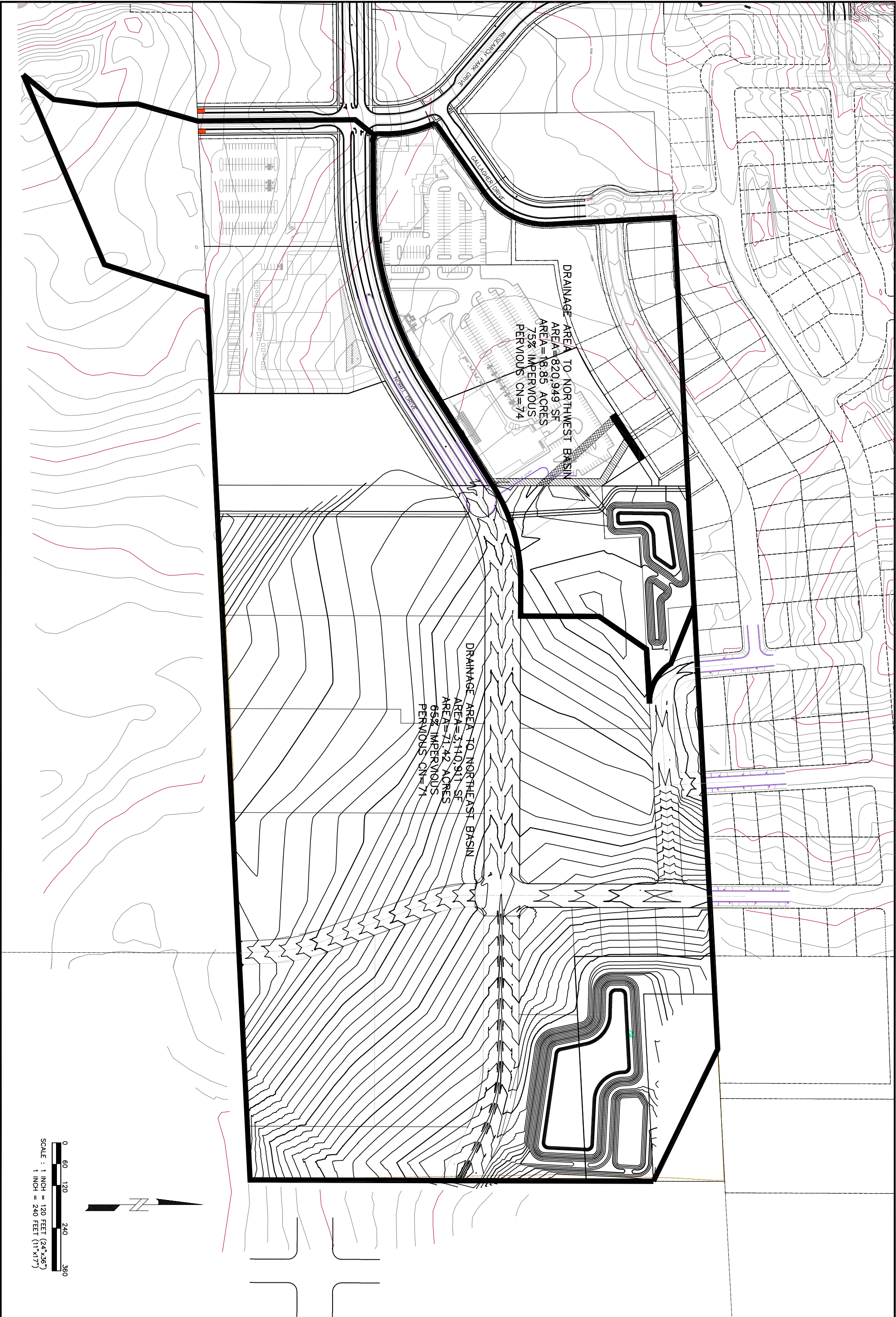




FITCHBURG TECHNOLOGY CAMPUS  
PHASE II  
EXISTING INFILTRATION AND RECHARGE  
FITCHBURG, WI

REEDSBURG - MADISON - PRAIRIE DU CHIEN  
999 Fourter Drive, Suite 201 Madison, Wisconsin 53717  
Phone: (608) 826-0532 Fax: (608) 826-0530





COMPREHENSIVE DEVELOPMENT PLAN  
STORMWATER MANAGEMENT SUMMARY

# Fitchburg Technology Campus – Phase II

## Fitchburg, Wisconsin

Prepared By:  
Vierbicher Associates, Inc.  
999 Fourier Drive, Suite 201  
Madison, WI 53717

Prepared On:  
**January 2011**

Project #033107490

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## **Fitchburg Technology Campus – Phase II Comprehensive Development Plan Stormwater Management Summary**

The purpose of this stormwater management summary is to evaluate the impacts of the proposed Fitchburg Technology Campus – Phase 2 (FTCII) on stormwater runoff leaving the site and to demonstrate that the planned development is able to meet the stormwater management goals and objectives. These objectives include:

- Preventing increases in stormwater runoff rates;
- Improving and preserving water quality in all water bodies;
- Maintaining natural flows and groundwater recharge;
- Minimizing negative impacts to wetlands and springs; and
- Preserving the natural habitat function of the North and South Branches of Swan Creek.

The performance criteria follow the City, County, and State ordinances, as well as the requirements from the McGaw Neighborhood Plan and the Capital Area Regional Planning Commission (CARPC). This criteria is outlined as follows:

- Reduce the Total Suspended Solids (TSS) load by 80%, based on an average annual rainfall, as compared to no controls.
- Control peak rates of runoff for the 1, 2, 10, and 100-year 24-hour design storm to pre-development levels.
- Control post-development runoff volumes to be equal to or less than pre-development runoff volumes for the 1-year average annual rainfall period as well as the 5-year average rainfall period as defined by WisDNR.
- Maintain, at least, the WGNHS pre-development groundwater recharge rates (currently identified as 9 to 10 inches per year) with no caps on the extent of infiltration areas.
- Treat the first 0.5 inches of runoff for oil and grease using the best removal technology available.
- Safely pass storm events in excess of the 100-year, 24-hour storm event.
- Coordinate management of phosphorus loading to receiving waters with studies currently in progress to set phosphorous criteria.
- Provide deep tilling to restore all areas compacted during construction.
- Stormwater practices are to be publicly managed, or have a perpetual legal maintenance agreement finalized with the local municipal authority.

Two regional stormwater management facilities are proposed in the outlots located in the northwest and northeast corners of FTCII. These facilities are proposed to treat the stormwater runoff from FTCII and approximately 31.48 acres west of FTCII. Each of the stormwater management facilities consist of a detention basin and an infiltration basin.

The area west of FTCII is not part of the McGaw Park Neighborhood and has been modeled to satisfy only the City, County, and State stormwater requirements. An infiltration basin was constructed in conjunction with the development of lots 20 and 21 (New Venture Center). This basin will be removed as part of the development of FTCII. The stormwater runoff from lots 20 and 21 will be conveyed to the northwest stormwater management facility, where it will be detained, treated for sediment control, and infiltrated to meet or exceed current City, County, and State requirements.

The area north of FTCII is treated by an existing regional basin located north of the proposed northeast stormwater management facility; however, the storm sewer in this area is designed for the 10-year storm event. The stormwater runoff from storm larger events overflows to the northeast stormwater management facility in FTCII. This pass-by flow has been included in the sizing of the northeast basin.

The FTCII site has been divided into the streets, residential lots, and commercial lots for modeling purposes. An impervious surface ratio (ISR) of 0.65 has been used for the commercial lots. This ISR is

lower than what was modeled in the McGaw Park Neighborhood Plan and in turn provides for more onsite infiltration. A majority of the stormwater runoff from FTCII is conveyed to the northeast stormwater management facility by overland surface drainage, grassed swales and storm sewer piping. Conveyance by storm sewer piping will be minimized to promote infiltration and groundwater recharge. Focus will be placed on integrating the conveyance routes into the surrounding development patterns in an aesthetic manner, incorporating recreational opportunities and providing proper hydraulic function.

Total suspended solids (TSS) removal is addressed at both the northwest and northeast stormwater facilities. Outlet pipes control the rate that the stormwater is able to be discharged from the basin. This allows the suspended solids that enter the basin to settle into the permanent wet storage area of the basin prior to discharge. The TSS removal efficiency for the FTCII site as a whole is 80.0%.

Infiltration requirements for FTCII will be satisfied at the northeast and northwest stormwater management facilities providing the soils are adequate. Soil borings will be performed in each outlot to determine suitability for infiltration.

A summary of the existing and proposed drainage areas follows (See Exhibit A and Exhibit B for the Existing and Proposed Drainage Area Maps, respectively).

### **Pre-Development Conditions**

#### Offsite – West (Undeveloped)

Area (Acres) -----	31.48
Runoff Curve Number -----	68
Time of Concentration (Minutes) -----	41.4
Pre-Development Peak Flow Rate, 1-yr (CFS) -----	5.76
Pre-Development Peak Flow Rate, 2-yr (CFS) -----	9.74
Pre-Development Peak Flow Rate, 10-yr (CFS) -----	26.80
Pre-Development Peak Flow Rate, 100-yr (CFS) -----	56.08

#### Existing Site

Area (Acres) -----	59.64
Runoff Curve Number -----	68
Time of Concentration (Minutes) -----	31.1
Pre-Development Peak Flow Rate, 1-yr (CFS) -----	13.33
Pre-Development Peak Flow Rate, 2-yr (CFS) -----	22.64
Pre-Development Peak Flow Rate, 10-yr (CFS) -----	62.06
Pre-Development Peak Flow Rate, 100-yr (CFS) -----	129.56

#### Offsite – North (100-Yr Pass-By Only)

Area (Acres) -----	12.35
Runoff Curve Number (Developed) -----	83
Time of Concentration (Minutes) -----	6.0
Pre-Development Peak Flow Rate, 1-yr (CFS) -----	22.72
Pre-Development Peak Flow Rate, 2-yr (CFS) -----	29.10
Pre-Development Peak Flow Rate, 10-yr (CFS) -----	51.77
Pre-Development Peak Flow Rate, 100-yr (CFS) -----	84.25

#### Allowable Post-Development Peak Flow Rates

Allowable Post-Development Peak Flow Rate, 1-yr (CFS) -----	<b>18.48</b>
Allowable Post-Development Peak Flow Rate, 2-yr (CFS) -----	<b>31.34</b>
Allowable Post-Development Peak Flow Rate, 10-yr (CFS) -----	<b>86.34</b>
Allowable Post-Development Peak Flow Rate, 100-yr (CFS) -----	<b>190.50</b>



## **Post-Development Conditions**

### **Stormwater Management Facility – Northwest**

#### Offsite – West (Northern Area)

Area (Acres) -----	14.20
Runoff Curve Number (Weighted) -----	87
Time of Concentration (Minutes) -----	10.0
Pre-Development Peak Flow Rate, 1-yr (CFS) -----	28.19
Pre-Development Peak Flow Rate, 2-yr (CFS) -----	35.39
Pre-Development Peak Flow Rate, 10-yr (CFS) -----	59.41
Pre-Development Peak Flow Rate, 100-yr (CFS) -----	92.97

#### Proposed FTCII Site - Northwest

Area (Acres) -----	4.68
Runoff Curve Number (Weighted) -----	84
Time of Concentration (Minutes) -----	6.0
Pre-Development Peak Flow Rate, 1-yr (CFS) -----	9.01
Pre-Development Peak Flow Rate, 2-yr (CFS) -----	11.56
Pre-Development Peak Flow Rate, 10-yr (CFS) -----	20.24
Pre-Development Peak Flow Rate, 100-yr (CFS) -----	32.58

#### Stormwater Management Facility – Northwest

Post-Development Peak Flow Rate, 1-yr (CFS) -----	1.71
Post-Development Peak Flow Rate, 2-yr (CFS) -----	2.62
Post-Development Peak Flow Rate, 10-yr (CFS) -----	8.46
Post-Development Peak Flow Rate, 100-yr (CFS) -----	39.82

### **Stormwater Management Facility – Northeast**

#### Offsite – West (Southern Area)

Area (Acres) -----	17.28
Runoff Curve Number (Weighted) -----	84
Time of Concentration (Minutes) -----	30.2
Pre-Development Peak Flow Rate, 1-yr (CFS) -----	16.34
Pre-Development Peak Flow Rate, 2-yr (CFS) -----	21.21
Pre-Development Peak Flow Rate, 10-yr (CFS) -----	37.94
Pre-Development Peak Flow Rate, 100-yr (CFS) -----	62.02

#### Offsite – North (100-yr Only)

Area (Acres) -----	12.35
Runoff Curve Number (Weighted) -----	83
Time of Concentration (Minutes) -----	6.0
Pre-Development Peak Flow Rate, 1-yr (CFS) -----	22.72
Pre-Development Peak Flow Rate, 2-yr (CFS) -----	29.10
Pre-Development Peak Flow Rate, 10-yr (CFS) -----	51.78
Pre-Development Peak Flow Rate, 100-yr (CFS) -----	84.25
Pre-Development Peak Flow Rate, 100-yr Pass-By (CFS) -----	47.16

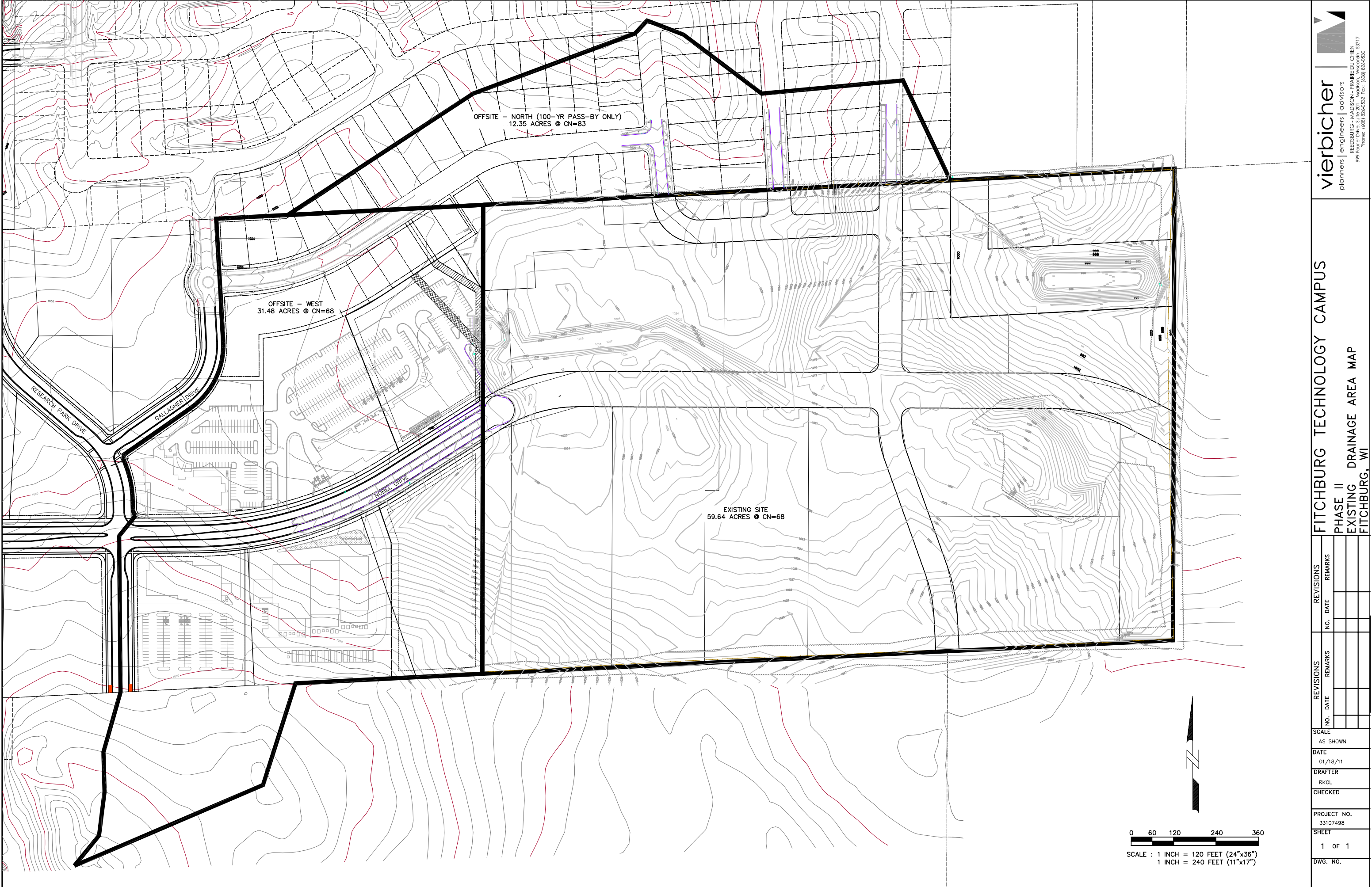
Proposed FTCII Site – (Remainder)

Area (Acres) -----	54.96
Runoff Curve Number (Weighted) -----	84
Time of Concentration (Minutes) -----	11.0
Pre-Development Peak Flow Rate, 1-yr (CFS) -----	16.34
Pre-Development Peak Flow Rate, 2-yr (CFS) -----	115.53
Pre-Development Peak Flow Rate, 10-yr (CFS) -----	203.34
Pre-Development Peak Flow Rate, 100-yr (CFS) -----	327.89

Stormwater Management Facility - Northeast

Post-Development Peak Flow Rate, 1-yr (CFS) -----	<b>2.70</b>
Post-Development Peak Flow Rate, 2-yr (CFS) -----	<b>4.62</b>
Post-Development Peak Flow Rate, 10-yr (CFS) -----	<b>30.82</b>
Post-Development Peak Flow Rate, 100-yr (CFS) -----	<b>148.27</b>

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FITCHBURG TECHNOLOGY CAMPUS  
PHASE II  
EXISTING DRAINAGE AREA MAP  
FITCHBURG, WI

REVISIONS	NO.	DATE	REMARKS
SCALE AS SHOWN			
DATE 01/18/11			
DRAFTER RKOL			
CHECKED			
PROJECT NO. 33107498			
SHEET 1 OF 1			
DWG. NO.			







## **Stormwater Management Maintenance Measures**

Project: Fitchburg Technology Campus – Phase 2

### **Stormwater Management Measures Included in this Agreement:**

- Site storm sewer pipes and structures
- Detention basin
- Infiltration basin

### **Specific Maintenance Requirements:**

#### *Short Term Maintenance(during construction and/or restoration):*

- The construction contractor, at the owner's expense or as agreed to by the owner and contractor, shall perform inspection of all facilities during construction and until site stabilization.
- Inspections during construction shall be weekly and/or after a rainfall event of 0.5" or more.
- Repairs necessary to restore the facility to design performance will be made within 48 hours of the inspection.
- Deficiencies include, but are not limited to, rill erosion, sediment deposition in the infiltration basin or behind perimeter control, and deposition of sediment on the tracking pad.
- Tracking on the public right-of-way shall be inspected regularly during days that construction traffic is leaving the construction site. Any excessive sediment tracked onto the public right-of-way shall be scraped immediately. Thorough sweeping, with appropriate equipment that physically picks up and removes the sediment (vs. pushing it to other locations within the public right-of-way) shall be conducted at the end of each working day during construction activities.

#### *Long Term Maintenance:*

- All stormwater provisions constructed as part of this project are permanent in location and function over time. The constructed stormwater provisions such as infiltration basins, inlet filters, and storm structures shall not be removed or significantly altered without written permission from the **City of Fitchburg's** Public Works Department. Owner shall maintain records of inspections and maintenance as described below in accordance with Chapter 27 of the **City of Fitchburg** Municipal Code of Ordinances.
- To maximize filtration, mowing in buffer areas should be minimized. If occasional mowing is necessary, the Department of Natural Resources suggests the mowing height should be no shorter than 6 inches. The Department of Natural Resources also states that the application of fertilizers, herbicides, pesticide or other chemical applications are prohibited on drainage devices in the long-term. The application of fertilizer for vegetation restoration is acceptable.
- Facilities showing signs of soil erosion should be repaired with emphasis put on grassed waterways being maintained for proper stormwater conveyance.
- Facilities or parts of facilities with no vegetation shall be restored to good vegetated catch.
- Inspections of the infiltration basin shall be done at least semi-annually in early spring and early fall. Infiltration area inspections shall include spreader and overflow spillway for indication of failure. Note the condition of vegetation as part of inspection. If standing water is observed over 50% of the basin floor 3 days after rainfall, the basin is clogged and measures should be undertaken to unclog it. Acceptable measures include removing the top 2 to 3 inches, chisel plowing and adding topsoil and engineered compost material. If deep tilling is used, the basin shall be drained and the soils dried to a depth of 8 inches.

After procedures, the owner /operator shall replant with native plants.

- The detention basins, outfalls, and outlet structures shall be visually inspected annually. The detention basins shall be mowed a minimum of twice per year. Mowing shall maintain a minimum grass height of 6 inches. All undesirable vegetation and volunteer tree growth shall be removed, including close proximity to any outfall and the outlet structures. No structures of any kind are permitted within the detention basin area, without prior written approval of the City Engineer. A topographic survey of the detention basin shall be taken once every three (3) years. Siltation in the basin, as identified by the topographic survey, shall be dredged and disposed offsite in accordance with NR 347.